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TEACHING:
ITS AIMS AND METHODS

BY

LEVI SEELEY, PH.D.

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PREFACE

TEACHING has long been made to appear an occupation, a calling, or a trade. Men have engaged in it as a makeshift, often a stepping-stone to some other profession. It has been largely a matter of experience in which the teacher employed the methods by which he had been taught as a child. So long as this was the case there could be little progress. Indeed, experience is a costly schoolmaster, costly not only for the pupils upon whom experiments are made, and for the community that pays the bills, but also for the experimenter himself. For he can reach efficiency only by a long and tedious process and with countless mistakes. Just as the untrained physician would reach professional proficiency only at an awful cost of human life and a fearful amount of suffering, so the untrained teacher must necessarily carry on his work at a tremendous loss. Hence normal schools, training schools, and teachers' colleges have been established to prepare teachers, as medical schools and clinics have been founded to prepare physicians.

The world has been rather slow to grasp the idea that teaching is a *profession* and that teachers must needs be *trained*. Indeed, there are still many boards of education, especially in rural districts, that do not appreciate this fact and are willing to employ, because they are cheap, teachers who are unprepared. But

great strides have been made in this country during the last half century. In most cities a professional basis has already been reached, and the rural communities are increasingly demanding better prepared teachers.

The purpose of this book is clearly to set forth what teaching is and what we have a right to expect from it, what material should be presented to the pupils, what method employed, and what the product should be. It is not designed to outline courses of study in the various subjects treated. That would be too large an undertaking. Nor would it be wise, at least in many subjects, because each community and each school must suit its curriculum to its particular needs. There is no doubt that the future courses of study will allow greater freedom, not only for the school, but also for the individual. The ideal will be reached when the courses of study are so flexible that each child can be given the kind of intellectual food that he can digest and that will best fit him for the life he is to live, that will take into account his individual capacity. The attempt is made, however, to discover and elucidate the underlying principles of teaching, to indicate the material to choose, to suggest the methods that are best, and to show how to determine the value of the results. Every teacher should clearly understand these things else the work will be largely perfunctory or experimental.

It is hoped that students of normal schools and training schools and of other institutions whose purpose it is to train teachers will find in this book stimulating and suggestive material to aid them in their

practice and method work, and also to open up to them the great problems of education that they are studying.

Then, too, there are many reading circles, teachers' clubs, and other organizations engaged in studying educational works and theories. The design here is to suggest an abundance of material for their study, criticism, and discussion. Such work is encouraged by superintendents and boards of education, and in many cases, made the basis of promotion.

Finally, I have not been unmindful of the needs of the lonely district school teacher who has but little suggestive supervision and who cannot join with others for study, mutual criticism, and stimulating help. There are many young teachers in this condition, who have lofty ambitions and high purpose, and yet who do not know how to set about self-improvement in the profession they have chosen. Many of these have gained the notion that works on education are dry, hard to understand, and withal of little practical use to them in their work. There is no reason why educational literature should be dry or difficult to comprehend. It deals with the most interesting and suggestive questions, as well as the most important ones, namely, those concerned with the development of the boys and girls, the future men and women of our land.

I therefore make no apology for not seeking to be profound. If my readers understand my meaning; if they find the discussions stimulating and helpful; if they are aided in the great work to which they have consecrated themselves; if they gain a nobler conception of this work; if they see a little more clearly how to perform that work; and if they are shown how to

understand, how to appreciate, how to help little children, then I shall have accomplished my purpose.

I desire to acknowledge the valuable assistance given me by Prof. Frank H. Scobey, chair of Mathematics, and Miss Margaret S. Cochran, chair of Domestic Science, both of the State Normal School, Trenton, N. J.

LEVI SEELEY

STATE NORMAL SCHOOL,
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Teaching: Its Aims and Methods

CHAPTER I

WHAT IS TEACHING?

In the early stages of the history of the human race all the instruction that children received was imparted by the parents. There were no teachers and no schools nor was there need for either. Men lived in tents and migrated from place to place seeking pasture for their flocks and safety for their families. All that men needed to learn was how to strike tent, how to care for their herds, which was their sole property, how to prepare hides for clothing and flesh for food, and how to protect themselves from their enemies. Knowledge was limited and the child could learn all that he needed to know through association with his father. As civilization advanced, as knowledge increased, as life became more complex and strenuous, as society began to be formed and men lived in closer contact with one another, added duties were thrust upon parents and they could no longer meet the new requirements in the education of their children. Hence teachers were required, first in the homes to aid the parents in the simplest manner in duties which they were no longer able to perform, and later in schools set apart for the instruction of children. Thus was originated

an occupation which soon demanded the services of men of superior intelligence and which has grown into a great profession. We may say therefore that teaching has become both a *science* and an *art*.

I. Teaching is a Science

The opinions of educators differ as to whether there is a science of education. All agree that there are many established principles governing educational theory and that progress is being made. But some think that we have not yet reached the stage in educational theory and practice which entitles education to be denominated a science. It is recognized that there was a time in the history of the world when there was no science. No one has created a science. Every science is a development resulting from a discovery of facts and principles which have been correlated and systematized into one general body, often requiring centuries of research and involving the activities of many men.

Science Defined. — It may be well clearly to understand what we mean by science. Webster defines science as "Accumulated and established knowledge, which has been systematized and formulated with reference to the discovery of general truths or the operation of general laws. Knowledge classified and made available in work, life, or the search for truth; comprehensive, profound, or philosophical knowledge." Or in the words of Sir William Hamilton, "Science is a complement of cognitions having in point of form the character of logical perfection, and, in point of

matter, the character of real truth." In point of form, it will not be claimed that education has reached logical perfection as is the case with mathematics, physics, or botany, or other exact sciences. Like psychology, it deals with mental activities, and like medicine it has always to suit itself to individual characteristics. Like these two sciences it has a body of "Accumulated and established knowledge, which has been systematized with reference to the discovery of general truths or the operation of general laws" which can be applied in teaching just as the systematized knowledge in medicine or psychology can be applied. Education can never become an exact science, for the discovery and acceptance of a new truth or principle opens the door to still other realms of investigation. The larger the vision, the wider the horizon, and there will never be a time when there will be no educational problems inviting solution. He who waits for a complete solution of all educational questions before he accepts a science of education will wait in vain.

Our belief that there is a science of education is based on the following reasons:

1. *Because there is sufficient accumulated and established knowledge on this subject.*— From the time of Socrates till the present time, educational theories have been advanced, some of which have been proven fallacious while many have become established and are universally accepted. Of the latter, we may mention the duty of the State to provide education for all her children and the right to levy public tax therefor; her right to extend free education beyond the elementary

school; her insistence on compulsory school attendance even in spite of parental objection; the employment of duly licensed teachers prepared at public expense; the introduction and maintenance of the kindergarten, of music, drawing, manual training, domestic science, and many other features necessary to meet the conditions of modern life. These matters affecting the material side of education are settled for all time. More strictly scientific and pedagogical questions, such as the training of the senses by means of object teaching, the doctrine of interest, the meaning of apperception, the proper correlation of subjects, the harmonious development of all the human powers, the training of the hand and the heart, as well as the head — all these, and many other questions, if not fully settled, have had light thrown upon them and have reached practically a final acceptance upon a scientific basis.

It would be impossible to formulate all the accepted educational principles that have been evolved. The statement of a few of these principles will illustrate the point under discussion. Greece taught the emancipation of the individual, an idea that reached its greatest impulse in the teachings of Christ, of whom Karl Schmidt says, "Christ, the perfect teacher, gave, by His example and by His own teaching, the eternal principles of pedagogy."

Plato taught that the aim of education is to bring all the powers of man into harmonious cooperation, and modern educators are emphasizing this principle. Aristotle believed that one must proceed from the concrete to the abstract, and Pestalozzi has worked out this theory in his scheme of object teaching.

Quintilian held that children should begin early with a foreign tongue and all modern thinkers are adopting this view.

Francke not only urged that teachers should be trained but also carried out his ideas practically. The establishment of many normal schools, training classes, teachers' colleges, and other institutions for the preparation of teachers, the vast sums of money freely contributed by the public for this purpose and the growing disposition of school boards to employ only professionally trained teachers, prove that this idea has won acceptance.

Charlemagne thought that every child has a right to an education and Pestalozzi emphasized the same thought. Of him Dr. Harris says, "He is the first teacher to announce convincingly the doctrine that all people should be educated, that, in fact, education is the one good gift to give to all whether rich or poor." Every civilized nation is now providing the opportunity for every child to secure that inherent right.

The above statements illustrate that there is "accumulated and established knowledge" on this subject, and we believe that it is sufficient to entitle education to the dignity of a science. Prof. Rein says, "Froebel gave the world the kindergarten, while Herbart elevated education to the dignity of a science.[1]

2. *Because of the scientific works on education.*— If the foregoing argument does not suffice, a second one is found in the vast number of scientific and philosoph-

[1] For the statement of many more educational maxims, the reader is referred to the summaries following each chapter in my "History of Education."

ical works on education. It is hardly conceivable that profound thinkers should devote their best thought to a discussion of something that does not exist. These discussions are found not only in educational books and periodicals, but also in popular magazines and current literature. Every year there are issued in English alone hundreds of books, pamphlets and other writing which treat seriously various fields of educational activity, while productions on this subject in German and French are still more voluminous. James M. Greenwood well remarks, "With a pedagogical literature that represents hundreds of volumes in English, more than two thousand in French, and more voluminous still in German, there is hardly a valid excuse why anyone who is to teach in a public or private school should be ignorant of the existence of this great treasure house of educational knowledge."

3. *Because of organizations for the study of education.*— Teachers' organizations, which meet periodically to discuss educational questions, from national and state associations down to the smallest teachers' club, furnish evidence that there is a science of education. It is true that there are other societies like labor unions and mutual benefit associations, which meet to discuss matters affecting their interests. But there is this vital difference between these organizations and those maintained by teachers, namely, their purpose is to secure better pay, shorter hours, recognition of the union or to provide for the sick, the aged, or the incapacitated, while the latter associations discuss questions affecting the welfare of the human race by means of the work done in the schools. Methods of

instruction, suitable courses of study, wholesome discipline, educational theories, whatever will interest and uplift the pupils, how to prepare them to be most useful in life, these, and like questions furnish the chief topics of the programs. Rare, indeed, does one find in such meetings discussions of salaries, of shorter hours, of advancement or other questions affecting the selfish interests of the teachers. This work is as purely altruistic as that of medical, legal, or theological associations, and therefore like these, teaching may justly be classed as a profession, based upon scientific principles.

4. *Because of the institutions maintained for the scientific study of education.*— There are, in this country alone, nearly 400 normal schools devoting their whole time to educating teachers, 1200 high schools with teachers' training classes, and about 140 universities and colleges offering pedagogical courses. In addition to these there are many summer schools, training classes, and institutes held for the purpose of preparing teachers. The maintenance of these institutions involves a large outlay of money, and whether that money is contributed by individual givers or is appropriated from public funds by legislative representatives, the fact that it is so freely given is a proof that the cause is worthy. It is corroborative proof that men believe that there is a science of education and they are willing to contribute for the spread of that science just as they are willing to support chairs for the teaching of physics, chemistry, mathematics, or other sciences.

5. *Because education has long been recognised as a*

science.— It is true that the recognition of education as a science has been tardy in this country, the oldest normal school having been founded only three-quarters of a century ago, and the recognition by higher institutions of learning having taken place only within a generation. In other countries, however, notably Germany and France, education has long been regarded as a science, courses have been offered, and degrees given on an equality with other sciences.

As teaching is a science it is worthy of respect and consideration the same as other sciences. It is in the way of progress and improvement in its own field of activity. On the part of teachers, it calls for altruism, for scientific investigation and enterprise. It is unselfish. It places teaching in the ranks of professions father than trades. It offers substantial hope for the future of the human race, for teaching is the greatest agency of progress and of the advancement of mankind.

II. Teaching is an Art

Not only is teaching a science, it is also an art. We shall come closer to the answer of the question, "What is Teaching?" in the consideration of teaching as an art. Let us study the method of Jesus, The Great Teacher.

Christ's Method. — "And seeing the multitudes, he went up into a mountain; and when he was set, his disciples came unto him; and he opened his mouth and taught them, saying, Blessed are the poor in spirit, for theirs is the kingdom of heaven." Thus began the most remarkable hour of instruction ever listened to

by human ears, Christ's *Sermon on the Mount.* What better introduction to a study of "The Art of Teaching," than a consideration of the method of the Great Teacher? First of all, His life and purity of character place Him above reproach, and His is an example of goodness and unselfish devotion for teachers of all ages. He was "without spot or blemish." The most careful study of His life by critics, by enemies and friends, by philosophers and students, by believers and unbelievers, by wise and simple during the past nineteen centuries has only sustained and confirmed the conviction that He is the greatest of all teachers. Not only the great and wise have been blessed by His sublime words, but also the simple and unlettered have understood Him and been comforted and uplifted.

What are the characteristics of Christ's method? In answering this question we shall find an answer to the problem with which we are dealing. These are some of the characteristics of His teaching:

1. *It was suited to His hearers.*— When He talked with Nicodemus, He discussed the profoundest doctrines of the new birth; but when He met the ignorant Samaritan woman at Jacob's well, He opened up the truth in the simplest and yet most searching manner. Among the vineclad hills of Judea, surrounded by wine-growers, He spoke the parable of the vineyard. In the midst of the farmers and tillers of soil, He began, "Behold a sower went forth to sow," or "The Kingdom of heaven is like to a grain of mustard seed." No one failed to understand His meaning and He is a most remarkable example of a teacher suiting his instruction to the comprehension and needs of His hearers.

2. *It abounded in concrete illustrations.*— Thus the evil of covetousness is shown by the parable of the rich man and his barns. Charity and forbearance are illustrated by the parable of the creditor and his two debtors. Mercy and generosity are taught in the story of the Good Samaritan. Forgiveness, in the wonderful parable of the Prodigal Son. Prudence, in the parable of the man building a tower, or the King going to war. Solicitude for the lost, in the story of the Ninety and Nine. Future rewards, in the account of the rich man and Lazarus. Justice in the parable of the Unjust Steward. All through His ministry he utilized the circumstances and the common events of the life around Him to illustrate and emphasize the lessons he wished to teach.

Following this example the teacher of young children must make abundant use of concrete illustrations and there is no material more suggestive than that found in the words and works of Christ. Pestalozzi caught the spirit of the Master and gave to the world the idea of object teaching, the use of concrete material. In this, as well as in the motive and zeal which actuated his whole life, the Swiss reformer followed in the footsteps of Him who taught as no one else ever taught and concerning whom the Roman officers said, "Never man spake like this man."

3. *It drew from nature and from environment.*— We hear a great deal in these days of "Nature Study," of the use of environment, of making the child acquainted with the actual things of life. We turn to Rousseau for a remarkable exposition in his *Emile* of nature's way of doing. Far richer and truer to

nature is the example and practice of Jesus. He loved to wander among the hills of Galilee and over the plains of Judea followed by His disciples, seizing upon the changing scenes to draw lessons of deepest spiritual import. The Mystery of the Kingdom of God is illustrated by the parable of the grain of Mustard Seed. What better method of inspiring confidence in God's providence than this appeal to nature? "Behold the fowls of the air! for they sow not, neither do they reap, nor gather into barns; and yet your heavenly Father feedeth them. Are ye not much better than they?" "Why take ye thought for raiment? Consider the lilies of the field, how they grow; they toil not, neither do they spin; and yet I say unto you, that even Solomon in all his glory was not arrayed like one of these." What stronger illustration of genuineness is to be found than in the parable of the good and the corrupt tree? "For a good tree bringeth forth not evil fruit; neither doth a corrupt tree bring forth good fruit. For every tree is known by his own fruit. For of thorns men do not gather figs, nor of a bramble bush gather they grapes. A good man out of the good treasure of his heart bringeth forth that which is good; and an evil man out of the evil treasure of his heart bringeth forth that which is evil; for out of the abundance of the heart his mouth speaketh." What a remarkable appeal to the shepherds and husbandmen is His parable of the lost sheep and how fully it must have reached their comprehension. "What man of you, having a hundred sheep, if he lose one of them, doth not leave the ninety and nine in the wilderness and go after that which is lost, until

he find it? And when he hath found it, he layeth it on his shoulders, rejoicing, and when he cometh home, he calleth together his friends and neighbours, saying unto them, Rejoice with me; for I have found my sheep which was lost. I say unto you, that likewise joy shall be in heaven over one sinner that repenteth, more than over ninety and nine just persons, which need no repentance." Christ never failed to employ nature to illustrate his sublime truths, thus emphasizing and fastening the lessons upon His hearers. No teacher can afford to ignore the New Testament in his study of educational method.

4. *It was simple and yet logical.* — The language that Jesus used was so simple that the ignorant and lowly could follow His teaching, and even little children were drawn to Him by the simplicity and fitness of His words. Whether it was a parable or a story, a warning or a reprimand, a tender appeal or an indignant reproof, a sermon or a prayer, an argument with the Scribes and the Pharisees, a comforting word to the sisters of Bethany, or a familiar talk with His disciples, Jesus expressed Himself with clearness and simplicity so that all understood His gracious words and grasped His meaning; and yet, there was a logic and completeness in His utterances that impressed even the wise and learned. We read that when His parents found Him in the temple at twelve years of age, sitting in the midst of the doctors, both hearing them and asking them questions, it was declared, that "All who heard him were astonished at his understanding and answers." We thus find a remarkable illustration of the necessity of simple and yet logical presentation of matter.

5. *It exalted the truth.*— Christ was the essence of truth, declaring unto Thomas, "I am the way, the truth, and the life." By His exaltation of truth and by His interpretation of it, Jesus has transformed the world, elevated mankind, fostered peace and brotherly love, and laid the foundations of human progress for all time. So, too, upon the teacher of today is laid the duty of promulgating truth, for the teacher is the "high priest of the future," and as he thinks, as he teaches, as he molds, as he leads, so will the future men and women think, and act, and live.

6. *It was authoritative.*— "And they were astonished at his doctrine; for He taught them as one that had authority, and not as the Scribes." There was no uncertainty in the mind of Christ in anything that He taught. He was always master of His theme and therefore was able to overthrow the lawyers, and Scribes, and Sadducees who sought to entrap Him by covert questions and sophistical reasoning. On the other hand, we have seen that He presented the truths so simply that the unlettered could comprehend. There can be no good teaching unless the teacher has so thoroughly mastered his subject as to be able to speak with confidence and authority. Men go to the ends of the earth to sit at the feet of a teacher who has won the right to be called an authority in some particular field.

7. *It was sympathetic.*— Christ came very close to those who followed Him as "He went about doing good." He loved little children and drew them to Him. He held Himself aloof from no one. He ate with publicans and sinners, tarried at the home of

Zacchaeus the rich usurer, and gave new life and hope to the abandoned Magdalene. His was the purest altruism for He gave Himself for others, always seeking to bless and save the lost and the hopeless. What an example for those who would consecrate their lives to the great work of teaching!

I have thus sought to present reverently and with a full sense of the greatness of the task, some of the characteristics of the method and to awaken something of the spirit of the Great Teacher as the best introduction to a study of the question at the head of this chapter, "What is Teaching?" Let those who wish to perfect themselves in the art of teaching not fail to study the life and work of Christ. May they catch the spirit that actuated Him. There is no better preparation for this noble work.

III. Definition of Teaching

Teaching may be defined as the process of canceling the difference in knowledge between two persons.—Let us turn to a more specific study of this definition. Some time ago while riding on a train I sat with a man who had in his possession a beautiful cane made of glass. He was a glass blower and had made the cane himself. He described the process by which he made the cane; in a word, he was my teacher. In so far as I grasped his meaning, the original difference between us on this subject was canceled. Of course, it would have been necessary for him to take me to a glass factory, put tools into my hands and train me in their use, show me the various processes and help me to acquire skill

in manipulating them, instruct me in the intricacies of glass-making in order wholly to cancel the difference between us so that I could make as fine a cane as he could.

1. *Knowledge the first essential.*— The teacher stands before his class possessing knowledge that the pupils do not possess. His work is to obliterate as much of the difference as possible, and this act is teaching. It is evident, then, that the first essential in the teacher's equipment is knowledge. The school trustee who hires his neighbor's daughter who has only a grammar school training on the ground that "She knows enough to teach those little children in the district school," fails to understand a vital truth, namely, that one who has but little to give can give but little, and therefore the children in such case have but little to expect. There is not much difference to cancel.

Recognizing the fundamental necessity of knowledge in the equipment of the teacher, normal schools are insisting upon the full preparation of the high school as a condition of admission and as a prerequisite to professional training. Examining boards everywhere are strengthening the academic requirements of candidates for license to teach. There must be mastery of subject matter, there must be broad culture and a sound basis of learning if one is to secure abiding and substantial success as a teacher. Skill in the manipulation of classes, genius in the technique of teaching, mastery in the art of interesting pupils, facility in the adaptation of methods are all very essential in teaching, but they can never be substitutes for knowledge. Let me illustrate this point by a concrete

example. As principal of a school I obtained graduates from two normal schools, one of which laid great stress upon *methods*, and the other laid stress upon *knowledge* as the foundation of the teacher's equipment. The former school held that the most important thing is to make the teacher familiar with the school room arts; the latter held that if you give her a sound foundation in knowledge and in the science of teaching, the art side would soon take care of itself. The first teacher took hold of her work like a veteran. She knew how to perform her duties and had her pupils well in hand. The other teacher began with indifferent success, so much so, that the board of education feared that we had made a mistake. But it was not long before she found herself and every year added to her strength and growth. The former teacher showed no progress, she was as good a teacher the first year as she ever was. The one teacher's equipment was based upon immediate and superficial results; the other upon lasting foundations, those of a thorough knowledge of the subjects to be taught. Said the principal of a public school to me: "The teachers that come to me from the training school always start better than those from the normal school because they are familiar with our system and have had more practice work; but those from the normal school soon find themselves, and always turn out to be my best teachers."

It is not noble buildings, or great libraries, or fine surroundings, or the large student body that make a university great; but it is the men of large learning, the men who have sounded the depths of knowledge, the

men who have something to give that make the university. It is these teachers that draw students to an institution. They possess knowledge that others want to acquire and students will make great sacrifices in order to come under the spell of those who possess it. There is nothing in the teacher's preparation that can compensate for the lack of knowledge. The commission of experts authorized by the legislature of Vermont to investigate the school system of that state, very wisely says that in teachers, "Knowledge of the subject-matter must have become so comprehensive and automatic that the conscious purpose to instruct may always be uppermost and unembarrassed."

2. *Power to impart an essential.*— While the first essential is knowledge of subject matter, it is recognized that there must be power to impart knowledge. Hence the necessity of professional schools to teach the science and art of teaching. There is little more reason for a young man who has completed the ordinary academic course in college to begin teaching without special preparation than there is for him to begin the practice of medicine without special preparation. For this reason most of our colleges offer pedagogical courses for students who expect to teach. This certainly is wise, for between twenty-five and thirty per cent of those who graduate from college enter teaching — a larger percentage than any other profession secures. The analogy between teaching and medicine is not wholly fair, because in the former one may employ knowledge and methods in the same way they have been employed in his education, while in the latter the field is entirely new. But the teacher

with no pedagogical preparation must learn to teach at the expense of his pupils, and this is a very expensive way to learn — expensive for the pupils and for the community. Therefore boards of education are expecting more and more that a college graduate shall supplement his academic course with a professional course in teaching before he seeks employment. To meet this demand there have grown up teachers' colleges and special courses in normal schools and summer schools, and these institutions are rapidly increasing as the requirement becomes more imperative.

3. *Natural qualifications for teaching.* — In the olden time stress was laid upon the teacher being possessed of natural ability in managing children and in imparting knowledge. Most persons who went through the earlier schools can recall such a teacher whom they remember with gratitude and affection. Less stress is now laid upon this idea than in former times, because it is recognized that through a study of the psychology of teaching, through an understanding of fundamental principles, and through practice in the art of teaching one can acquire power in this field, as power in the field of medicine, law, or theology can be acquired; and there are the same reasons for special preparation in teaching as there are for special preparation in the other professions. Although the "born" teacher was often a person whose chief gift was the ability to keep order — always a primary essential, but doubly so in the old time school — yet some of them possessed extraordinary skill in imparting knowledge.

Whether it is natural or acquired, the teacher must

possess the power to impart knowledge, must know how to cancel the difference in knowledge between himself and his pupils. How shall this difference be canceled? How shall teacher and pupil be brought together? The answer is — by teaching. It is obvious that the first essential in this process is to make the child eager to know. No successful teaching can take place without this. The material selected and the method of presentation must be suited to the capacity of the child. Interest cannot be sustained unless these conditions obtain. Ingenious technique on the part of the teacher will not suffice. Hence, in the real sense, method embraces not only the act of imparting but also the content — suitable material.

4. *Manner of imparting.*— If John Locke's teaching, that the mind is a *tabula rasa*, a "blank tablet," on which impressions are to be made as on the film of a camera is true, the principal work of teaching is to impart; and the more one can throw on the "blank tablet," the greater the amount of instruction; but this theory has long been an exploded one. The mind is self-active and the great work of the teacher is to arouse self-activity in the child, a principle upon which Froebel lays great stress. The teacher may be ever so efficient in imparting knowledge, but if the pupil does not respond, if he is not stimulated to think and act for himself, there is no real teaching. There must be mutual and sympathetic action between the two or there will be no cancelation of the difference in knowledge.

5. *The German method.*— The method of instruction in the German *Volksschule* is that of imparting. The

teacher relates the historical event, or the lesson in geography, or whatever is to be taught, and then questions the pupils concerning the facts given. He does this with that wonderful skill and forcefulness which has made the German schoolmaster famous. No preparation on the part of the pupils is required — in many subjects they are not provided with text-books. It has been estimated that the total cost of text-books for the eight years' course is not more than one dollar. Home work consists in performing tasks that follow the instruction rather than in doing work that precedes it as is our American custom. The German pupil learns through the instruction, and his self-activity is certainly aroused. President Butler thinks that the German child of fourteen is at least two years in advance of the American child of the same age in the matter of knowledge. But has he also the self-reliance, the power of initiative, the desire for further progress in learning that the American child has? Does not the method of instruction, the imparting method in which his teacher is almost his sole means of gaining knowledge, tend to destroy his power of initiative and his self-reliance and fail to provide him with the power of progressing and the desire to do so after leaving school? Many thoughtful German educators believe that their schools are defective in these very important respects and the authorities are establishing many supplementary schools for the purpose of encouraging further study after the child leaves the common school. It seems to me that teaching, in the best sense, stimulates the above qualities, namely, the power of initiative, self-reliance, and the desire for further progress,

and that these qualities should be inculcated even in the elementary school which furnishes all the schooling that ninety per cent of the children ever get.

I shall discuss methods of teaching in a later chapter in which the details will be more fully treated. In conclusion, the teacher must first of all possess knowledge; and secondly, he must have the power to impart it. His teaching is a success when, in part at least, he has canceled the difference in knowledge that existed between him and his pupils, and when through the stimulation of their self-activity he has succeeded in creating a desire for further progress in learning, and has taught them how to secure it. In reaching these results, doubtless his own personality, his skill in the art of teaching, his power of awakening enthusiasm, and his genius in interesting the child's capacities and needs will play an important part.

CHAPTER II

MOTIVES FOR BECOMING A TEACHER

The Need of Teachers. — Every year from 80,000 to 100,000 young people in this country enter upon the work of teaching. They come from the farm and the city, from the college and the normal school, but the great body of them still come from the elementary school where their training has necessarily been very limited with little reference to any professional calling. It is an encouraging sign, however, that college graduates are entering more and more upon this work. Formerly the largest percentage of college graduates entered the ministry or the law, but now teaching is drawing a larger percentage from the colleges than any other profession is drawing — the latest statistics showing that more than a quarter of those who go to college become teachers. The normal schools, public and private, furnish some eighteen thousand graduates, while the normal departments of universities, colleges, and high schools contribute about four thousand more, making approximately one-fourth of the nearly one hundred thousand teachers needed every year.

Commissioner Claxton says, "The total number of graduates (from normal schools), 18,278, was large enough to supply less than 25 per cent of the demand for new teachers in the elementary schools of the country. If all the graduates had begun teaching in the fall

after their graduation, there would still have been 60,000 vacancies or more to be filled by young teachers who had not had the education and professional training represented by graduation from the normal school. This lack of preparation of teachers is one of the greatest evils of our school system. In no other country that pretends to provide an opportunity for universal education is the condition in this respect so bad as in the United States. This condition must be remedied or the schools must continue to be much less efficient than they should be. The state or country which assumes the responsibility of educating children at public expense and in schools under public control, must assume the corresponding responsibility of preparing at public expense a sufficient number of teachers, and must refuse to license persons not having sufficient native ability, education, and training to use to good advantage the time and money of the children. It is unwise and unjust to give in one school supported by the taxes of the people and attended by children that may be prepared for life, for making a living, and for the duties and responsibilities of citizenship, a well-educated and well-trained teacher, and to give at the same time to another school supported by the taxes of the people and attended by children that may be prepared for the duties and responsibilities of citizenship, a teacher without education, training, or experience."[1]

The Untrained Teacher.— The problem of the untrained teacher is the most stupendous problem that confronts American education today. It is chiefly to

[1] United States Commissioner's Report for 1912, p. xviii.

reach, inspire, guide, and aid the great body of young people who belong to this class, and who most of all need help, that this book is written. Entering upon the work with high ambition and lofty ideals, nevertheless, without professional training and experience, they grope their way in ignorance of many things that they might learn and make mistakes that they might easily escape. All this is done at the expense of the children. Whoever helps the teacher, becomes a benefactor of the more than twenty million children thronging the public schools of America. And this brings me to the topic which this chapter starts out to discuss.

Motives. — Of all those who contemplate entering upon teaching, whether it be those who have spent time and money in obtaining a suitable preparation, or those who have had no preparation, I want to ask the question, "What are your motives?" No one should undertake this great work without carefully considering its importance, its opportunities, and its responsibilities; for to be a teacher of the young is one of the greatest privileges and opportunities that a human being can enjoy. There is no nobler calling among the occupations of men. It opens to the young man or woman of ability, ambition, and zeal such a field for good as no other calling offers. Even the minister of God's Word does not have the opportunities for doing good that the school teacher does, for the latter deals with impressionable and plastic minds and hearts which are committed to his care by personal contact for several hours a day and possibly for a number of years. Hence the importance of devoted, consistent, and con-

secrated persons in this work. And this is the reason why it becomes so important to consider the motives for entering this field of labor. The choosing of one's life work should call for serious consideration, as it is a crisis in any young person's life. During school life, whether it be in the elementary or high school, in college, university, or other school, the individual is under tutelage, is guided by older and wiser persons. He has been care free and the problems of life have not rested heavily upon him. But now the time for the choice of a calling has arrived, responsibilities must be assumed, and if the teaching profession is selected, he must not forget that the future of many others will be largely determined by the measure of his wisdom and faithfulness. For it is no light matter to become a teacher of youth. Therefore we consider the various motives which actuate in the making of a choice.

1. *The earning of a livelihood.*— No doubt many a young man enters teaching with no higher motive than to make a living. Now to support one's self by honorable enterprise is certainly worthy, and I find no fault with the teacher who seeks to improve his condition financially. "The laborer is worthy of his hire" in this as in other occupations. But this is not a sufficient motive. At a teacher's institute the question was asked as to the motives for becoming a teacher. The following are some of the replies. "Because I thought it an easy job. Nothing to do but sit in a chair for five or six hours and read questions out of a book. All Saturdays free and a three months' vacation in summer." "I preferred it to being a hired girl."

"The pay is better than work on a farm and the work easier." To boys brought up on a farm where wages are from fifteen to twenty-five dollars a month and where twelve to sixteen hours a day of labor are expected, a salary of six or seven hundred dollars a year where only six hours a day are required, with many vacations, is very alluring. Such boys are apt to measure the value of money by the standards of country life to which they are accustomed, not realizing the thousand and one expenses for clothing, board, amusement, etc., incident to town life and the style of living that the teacher must maintain, which are quite unknown to the simple life of the farm. Nor do they take into account that six hours a day by no means represents the time that the faithful and successful teacher must devote to his profession. They see only the two extremes, hard work, long hours, small pay, and narrow life on the one hand, and ease, short hours, large pay, good clothing, respectability, honor, and a chance to mingle in the great activities of the world, on the other hand. If they would take the trouble to examine the facts, they would find that the farmer really has more ease, more independence, and a better living, and is far more likely to make a fortune. Rich school teachers are exceedingly rare, and very few have acquired a competency from the salaries paid them.

I do not present these facts for the sake of discouraging farm boys from selecting teaching as their life work. Indeed, many of the great educators of our country today began life amid the hardships and responsibilities of the farm. Such an experience fur-

nishes an excellent foundation for the virility, the faithfulness, the devotion to duty, the sympathy for those struggling to free themselves from the bonds of ignorance, which the schoolroom so strongly invites. The profession of teaching, fortunately, has always appealed to those brought up amid the simple life of the rural community. At a recent meeting of the educational leaders of a great state — the superintendents, inspectors, principals, and normal school professors — it was found that out of fifty men present, forty-nine had been raised in the country, most of them on the farm. These men, while undoubtedly first attracted to teaching by the apparent opportunities to improve their condition as above stated, have found the work congenial and inspiring, and they have measured up to its requirements in the noblest manner. Their sturdy frames, their good habits, their self-reliance, their industry, their virility, their training in meeting and carrying responsibility, all these things, gained under the primitive conditions of farm life, have furnished a magnificent capital upon which to draw all their lives, and these possessions have been a large element in their success. So the teaching profession will ever invite this class of young men, not as a means of emolument, but as a means of far greater usefulness and more real success than financial enterprise can offer.

So, too, many a girl, having obtained an education somewhat beyond that of most girls in the neighborhood, casts about for something to do. It is seldom that she will go out to service. While we have as yet no class distinctions in this country, unfortunately,

there is a decided tendency among those who have been to high school to look upon manual labor as degrading to them. Such, surely, ought not to be the case, and our schools are lax in their duty to the rising generation by failing to meet this tendency. Right education will prepare for life whatever its duties may be and it will sanctify and ennoble honest labor of all kinds so that the injunction of the Bible, "Whatsoever thy hand findeth to do, do it with thy might," will be carried out in letter and spirit. The greatest of all Teachers devoted a large part of His life to labor with His hands at the carpenter's bench, thus forever glorifying and ennobling honest toil. Oh, that we could implant in the lives of the young committed to our care something of His noble spirit and motive! Few educated girls are willing to learn the arts of domestic life so important to the perpetuity and the happiness of the home. Nothing so contributes to the comfort and happiness of the home as the ability on the part of its presiding genius intelligently to direct every feature of household activity. Every German girl, no matter what her station in life, is trained most thoroughly in all these duties, and for this reason she is prepared to be the companion and helpmate of her husband. For, after all, the noblest place for woman is the home with its sacred duties of wifehood and motherhood.

But what has all this to do with girls who choose teaching as their life work? It is a statement of a well-known fact to say that comparatively few girls who enter the field of teaching expect to make this a permanent occupation. The fact that such large

numbers of them marry after a few years in the schoolroom is proof of the statement. While it is admitted that this is bad for the schools in that it necessitates the constant introduction of new and inexperienced teachers, it is a good thing for society at large because it adds to the number of educated and intelligent wives and mothers. If the state, therefore, has been at the expense of preparing girls for teaching it is a good investment even though many of them teach for only a few years.

Many New Teachers. — Four-fifths of the teachers of this country are women and the proportion is ever growing higher. Inasmuch as nearly one-fifth of our teachers withdraw from the work each year, the problem of preparing a sufficient number of teachers is very hard to solve. The large preponderance of women teachers is the chief cause of this condition of things. Men enter the work for life and remain in it, while women do not usually enter it for life and often do not remain in it. Most of the withdrawals are from the ranks of the women. So while girls often teach as a temporary makeshift, and we cannot condemn the motive, it is not the highest motive. I gladly admit too, that in many cases a higher motive is attained when they get settled in teaching and they come to love the work as a wonderful opportunity to do good. They continue to teach because they love it, and many would not change their occupation for anything that the world has to offer. As positions become permanent, as salaries become more enticing, as teachers are treated with greater respect, more and more women are choosing teaching as their life work.

It may not be amiss to remark that there is a hint in the above discussion as to why, on the whole, the salaries of men will always be higher than those of women. It is not a question of efficiency or of success, for certainly women are the equals of men in both of these respects; nor am I considering whether or not at a certain period of a child's life women are superior as teachers, and at another period men are more effective; but it is a question of business expediency and obedience to the law of supply and demand. A larger proportion of men than of women select teaching as their life work, their average term of service is longer, and therefore men on the whole will always command higher pay. When women prepare themselves as well, prove as efficient, and continue as long in the work as men, the question of sex ought not to enter into the fixing of salary.

2. *The desire for self-improvement.* — This is a second motive that actuates many young persons to choose teaching. They are filled with ambition to improve themselves, a most worthy ambition that surely should be encouraged. And teaching certainly offers rare opportunity for the attainment of such ambition. Nothing so thoroughly clarifies one's ideas of a subject as to be obliged so to present it to the minds of children that they can fully comprehend it. The earnest and conscientious teacher will not be satisfied to present a truth superficially. Therefore he must have more than a superficial knowledge, he must thoroughly master it. In presenting it to his pupils by various methods, with inexhaustible patience, and by many repetitions, in order that they may surely

comprehend and fix the lesson taught, it unfolds itself to the mind of the teacher with added force day by day. What teacher has not experienced a wonderful revelation of truth to his own soul while he has been eagerly seeking to clarify it to suit the vision of his pupils? The teacher's calling furnishes unsurpassed opportunities for self-improvement. In stimulating the intellectual growth of children there is corresponding, perhaps even greater, intellectual growth of the teacher. Nor is this growth limited merely to the intellectual. What superintendent has not witnessed the evolution of the frivolous and irresponsible young beginner into the thoughtful and conscientious teacher, who has been led by contact with innocent and trusting childhood to measure up to her great responsibility for the moral and spiritual, as well as intellectual welfare of the young lives committed to her guidance? An interest in these sides of the lives of her charges reacts upon her life and makes her better. Indeed, the teacher who does not grow even faster than her pupils grow, who does not become gentler and more sympathetic as the years roll around, has missed her calling and should seek some other field. Contact with intellectual life stimulates thought and zeal for higher attainments, association with the pure and holy inspires to better living and awakens desire for personal righteousness, and so to live in daily contact with pure and innocent children cannot fail to make one better. For children are the "Gift of God," and they reflect His love and likeness unless they have been spoiled by evil association. Most children have not been so spoiled, they are good, and pure, and lovely. To ap-

preciate this thought one has only to study the splendid optimism of Judge Lindsay in his dealings with the toughest boys of Denver.

Every great educator in history began teaching with comparatively small equipment in general knowledge and in pedagogical skill. But every one of them improved himself while he improved his pupils, grew into a far wider horizon while he extended the horizon of those he taught. In the largest degree, perhaps even more in this than in other callings, "Giving doth not impoverish" but enricheth in this moral and intellectual work of the teacher. I think that this explains why lapses from moral life are less frequent in the teacher's profession than in any other.

The young person who becomes a teacher for the sake of improving himself, does so from a worthy motive, provided this is not a mere stepping-stone to some other calling. And in teaching he will find the best of opportunities for the fulfillment of the ambition to make the most of one's capacities.

3. *The Patriotic Motive.* — Love of country is a natural and commendable impulse in every human heart. Many think that it finds expression only in answering the call to arms when the nation's life is in peril. In the late Spanish war many young men, inspired by enthusiastic patriotism, enlisted to serve their country. In 1861, Lincoln's call for volunteers was answered by hundreds of thousands of men ready and willing to give their life-blood for the preservation of the Union. Even more prompt was the response to Lincoln's call in 1863 when Lee invaded Pennsylvania. Forty thousand veterans, of both the blue

and grey, have been the nation's guests on the immortal field of Gettysburg where fifty years ago in fierce conflict they sought each other's destruction. At this semi-centennial celebration they sang their old war songs, shouted their battle cries, waved their tattered battle flags — the stars and bars mingling with the stars and stripes — told over again the campfire stories of heroic deeds, marched again to fife and drum with feeble and halting step, reacted again Pickett's awful charge and the stubborn resistance at "Bloody Angle," listened to patriotic speeches — sad remnants of the mighty armies who half a century ago on that field decided the fate of the Republic. All bitterness had disappeared forever, and the soldiers of north and south joined with equal heartiness in singing, "'Way down South in Dixie," "Three cheers for the red, white and blue," and "We're tenting again on the old camp ground." Nothing in a generation has so stirred the patriotic fervor of the land as this great reunion at Gettysburg in July, 1913, at this half-century anniversary.

But the opportunity to respond to the call to arms, fortunately, does not come in this land of ours to a whole generation of men. Hence this way of showing patriotism can never make its appeal to them. Shall they therefore be any less patriotic, and is there no other way of proving one's love of country? In a country like ours where the people rule, the call for true patriotism is constant and imperative. For if the people are not patriotic under a free government that government will soon cease to be. Men are called upon often at great personal sacrifice to serve

their country in public office, while the great masses must exercise the right of franchise in the choice of proper men to serve them in national and local affairs. There is no safety for our institutions unless this choice is made, not from narrow partisan motives, not for selfish purposes, but with a sincere and intelligent conception of the duties and responsibilities of a free people.

Vast hordes of people come to this country with no knowledge of our institutions. They must be taught the economy of our governmental system. They must be instructed in our laws. They must not only assimilate our language and become acquainted with our customs, but they must also grasp the spirit of our manner of ruling. Accustomed to strong, perhaps despotic government, it is hard for them to understand that liberty does not mean license, that freedom adds to personal responsibility.

Nor do they alone need training for citizenship. Young America must also be taught that patriotism means more than readiness to spring to arms in the hour of national danger, which, as we have seen, seldom comes; they must know that patriotism makes its greatest demands in times of peace when the nation is not aroused by appeals to sustain our country's honor against an outward foe; nor even in the midst of an exciting political campaign when orators and newspapers seek to win men to their party beliefs. He is most patriotic who is obedient to law, who does his duty, not only at the polls, but in every activity of life, and who stands ready unselfishly to serve his country in peace or war whenever the call comes.

Obviously the great work of implanting these high

ideals rests largely with the public school. It alone reaches the whole mass of the people, it alone can shape the future of the nation. The teacher is the "High priest of the future," and as he thinks, as he acts, as he teaches, so will the men and women of the future think, and act, and live. Hence the teacher must be a patriot. The German government, recognizing the great importance of this truth, requires every teacher, upon induction into office, to take an oath of allegiance. We do not advocate this, nevertheless, the teacher must have a high conception of duty towards his country and must appreciate his opportunity to serve it. To enter upon teaching for the sake of serving his country by teaching children real patriotism is a most noble motive for any young man. Not on the battlefield, not in the halls of legislation, not on the judge's bench, not in the arena of diplomacy, however noble each of these may be, but in the schoolroom he serves by shaping the lives of the embryo men and women and inspiring them with intelligent and consecrated love of country. After Prussia had been crushed by Napoleon in 1806 and lay bleeding under his awful tyranny, it was the schools and the universities that aroused the people and prepared them to throw off the yoke at the battle of Leipsic in 1813. "The schoolmaster has won our victories," said Von Moltke, after Germany had overwhelmed France in 1871. I know of no higher opportunity for a young man who is enthusiastic for his country than that which teaching offers. The invitation to such is loud and pressing, and in no field of endeavor is there greater opportunity to satisfy the loftiest ambition.

4. *The Altruistic Motive.* — What has already been said surely calls for altruism. I shall however, present the altruistic motive in a broader sense — the desire to be of service to one's fellowman. During the adolescent period, when most young people begin to think of their life work, there springs up an overwhelming desire to be of use to mankind. It is true, unfortunately, that many lose sight of this impulse later in life and never carry it out; but there is, nevertheless, such a time when the young have large ambitions, when they look forward to doing great things in the world. Nor is this ambition by any means entirely selfish. Doubtless environment has a great influence in shaping their ideals. Children brought up in good homes, surrounded by an atmosphere of purity and under good example, will naturally be more likely to choose the right attitude. But all children possess the altruistic spirit in some measure and this fact should not be lost sight of in their education. It is the essence of unselfishness. Teaching offers, in a rare degree, opportunities for the satisfaction of this innate desire. It places one in the way of leading them to be virtuous, of fitting them to be successful in life, of forming their character, of guiding them into the realm of the spiritual, and of leading young people into the larger life, of preparing them for good citizenship. Many a man has been saved to a useful life by the elevating influence of the school and its consecrated teacher. No occupation calls for a greater spirit of altruism than teaching.

I think that the altruistic motive to become a teacher is much the same as that which should lead a young

man to consecrate himself to the Christian ministry. The teacher's calling demands the same self-sacrifice, the same devotion, the same altruism, and offers opportunities to be of service similar to those of the minister's calling. And in every one of these things the opportunity to serve his fellowmen is fully as great for the teacher as for the clergyman.

I would have every young man or woman who contemplates entering upon this work to weigh well their motives; and if the motives are ignoble, if they are selfish, if they consider this as a mere makeshift or stepping-stone to some other work, I urge them not to enter this field. There are plenty of other openings for young men whose ambitions are in a different direction, and for young women too, where they can be of service to the world and satisfy whatever ambitions they may have. And also if there are some already in the harness who read these pages, and who upon careful analysis, find that they do not measure up to the standards outlined, and who have no expectation of measuring up to them, to such let me say self-respect and a regard for the fitness of things demands that they withdraw at the earliest possible moment.

With the loftiest of motives would I summon young men and young women of finest abilities and noblest character to this great work. If they have lower motives, this is not the work for them. Teaching is too noble and too sacred a calling to be trifled with. There is no other profession that offers such genuine rewards, that brings such joy in accomplishment, that furnishes such opportunity to be of service to one's fellowman.

CHAPTER III

THE GROWTH OF THE TEACHER

FULLY ninety per cent of the teachers in this land had little or no professional training when they began to teach. We have discussed what motives have led to their adopting this profession. Many of them have a natural bent for teaching and such young people are apt to be successful. But a natural liking for children and the possession of a disposition to control and teach them are not sure signs that the teaching power is inherent. There are few persons who do not love children, therefore this cannot be taken as an indication. Most girls love to gather little children together and play "Keeping School," yet many of them never become teachers. On the other hand it is a rare thing that a boy acts as teacher in play, yet many boys become teachers. Therefore these early indications must not be taken too seriously. And this is true with other callings as well as teaching. How few men are following the occupation that their friends thought they were cut out for, and how often tendencies in children that are rather marked and that seem to hint at the destined field of endeavor, lose their force in later years; these early interests wane, and an altogether different occupation is chosen.

The "Born" Teacher.— In former times the term "born" teacher was very common and it was believed

that to be a successful teacher one must possess certain innate, unusual, mysterious qualifications. In public estimation the most important of these qualifications was the power to control children. I visited a country school in charge of a woman who had been recognized for many years as "the best teacher in the county," as a "born teacher," as "a fine disciplinarian," etc. I found a woman stern and uncompromising in manner, rigid in her requirements, a veritable martinet. She made the children "toe the scratch," and everything was as automatic and machine-like as a printing press. She could "hear" the lessons and determine how much the children had committed to memory out of their text-books. She could make the children behave by her dominant personality, but could not lead them into that self-control, that manliness, that genuineness, that sense of freedom and the power rightly to use it, which those teachers impart who labor from love and from a deep insight into the nature of children. This woman was not a "born" teacher although she had won that reputation.

But a truer conception of the "born" teacher is gained by contact with teachers possessing a genius for imparting knowledge, and having the power to awaken interest, to arouse ambition, to stimulate intellectual activity, to engender a longing for noble things and a hatred for the ignoble. Such teachers there always have been. They are exemplified in the person of Confucius, of Socrates, of Pestalozzi, of Abelard, of Thomas Arnold, of Mark Hopkins, of Mary Lyon, and highest of all in our Great Teacher. Many a man who has had such a teacher looks back

with gratitude and reverence upon him and ever holds him in sacred memory. Whether these persons have been great because of natural or of acquired qualifications, happy the boy or girl who has had the privilege of coming under their influence. The truth is, the teacher is no more "born" than the lawyer, the doctor, the carpenter or the dressmaker is "born." Some men will make better lawyers than others, and some women will excel in dressmaking, and it will readily be conceded that there are certain innate qualities which make for success in any profession, in teaching as well as others, but no more than in others. Normal schools admit students who possess sufficient scholarship, good moral character, and a healthy body. They take no note of natural fitness or innate qualities, because few of the candidates have had previous teaching experience. Yet a large proportion of those received become successful teachers, fully as large as the product of any other kind of professional school. The State of New Jersey has given her normal graduates a second-grade certificate upon completion of the normal school course, which is followed by a life certificate after two years' successful teaching. Recently the State Board of Education has changed this and now gives a life certificate upon graduation because in the last twenty-five years not one of the nearly five thousand graduates has been refused the advanced certificate.

Teaching is a profession and normal schools very properly are founded to train young persons in the science and art of teaching. No one who desires to become a teacher need worry over the question of

his capacity to teach. If one desires to become a teacher; if one possesses the necessary intellectual, moral and physical qualifications, and the ambition to succeed; and if one be willing to work for success, one may confidently enter upon the professional training. If a mistake has been made it is almost sure to be discovered before the course is completed.

Need of Growth while Teaching. — Having entered upon teaching with or without professional preparation, the teacher must continue to grow or there will be no educational progress. Education is progressing with us; new problems are arising as old ones are solved; educational agencies are alert and progressive; experiments are being tried and old theories and practices abandoned for new ones based upon the results of research; and thinkers are devoting their intelligence to educational matters as never before. Moreover, the public school and its mission never had so strong a place in the affections of the American people as at the present time.

To keep pace with these wonderful movements the teacher must continue to grow. The normal school that best accomplishes its mission does not send forth its graduates puffed up with their professional knowledge or skill, but rather, while it gives them confidence in themselves and in the work they have done, it opens up to them the great questions concerning education and hints at their solution. True education makes one humble rather than conceited, unsatisfied with one's attainments rather than contented. It is the ignorant man who has a high opinion of his attainments. Place a candle in a dark place and it will light

up a space say twenty feet in diameter. All within that space will be known. But just in the horizon thus formed there will be obscure and partially known objects, while beyond it all is unknown. Place a lamp at the same center and the diameter of the lighted circle may be fifty feet. The unknown objects just beyond the former horizon now become clear while many more objects within the extended space are brought to knowledge. But in the new horizon there are still more unknown objects than in the first one. Carry the illustration further by using an arc light capable of illuminating a space of one hundred feet in diameter. Once more the previously dim and uncertain becomes clear, but again the number of uncertain or partially known objects is multiplied in the greatly enlarged horizon. The vision in the last case covers far more than in the first. But at the same time it reveals far more of what is unknown, of what is yet to be explained, and hints at innumerable mysteries lying beyond the new horizon. So it is with human knowledge. The further you extend the intellectual vision the more knowledge is gained, but at the same time it is revealed that there is far more yet to be known. The truly wise are always humble because they have a clearer conception of the unfathomable depths of human knowledge and of the impossibility of mastering it all. No wonder that Sir Isaac Newton, after having reached the summit of the world's scientific knowledge of his time, exclaimed, "I am but a child gathering pebbles on the sea shore." The graduate of normal school, college, or university, therefore, instead of having "finished" his education,

is just ready to grow, and in no profession is there a greater inducement to further growth than in teaching.

Means of Development and Growth. — I desire to show the means of growth both to the beginner with little or with much preparation, and to the teacher of experience. For both must grow or they will become stale and non-progressive. It may be that I will say some commonplace things. But it is better to be accused of being commonplace than of being incomprehensible.

I. Reading

(a). *Educational journals.* — No matter how isolated the teacher may be she can never be shut out from the opportunity to read educational works. There are plenty of educational journals which abound in practical suggestions for the schoolroom, in inspiring articles, and which furnish excellent professional training. A good educational paper will return many times its cost in inspiration, in helpful suggestions, in disclosing better methods, and in promoting educational advancement. Any teacher who will regularly read a good educational journal may with assurance be expected to succeed. I have before me such a paper that contains educational news, methods of teaching, illustrative material, inspirational articles, suggestions as to school management, material for entertainments, such as Decoration Day, Thanksgiving, and Christmas. The teacher can find here just the help she needs for her daily work, and at the same time keep in touch with educational movements. Not only will the children get the advantage of this live material, but the

teacher also will promote her own growth and advancement.

(b). *Standard pedagogical works.* — While educational periodicals stimulate and enlarge the immediate work of the schoolroom, no teacher can afford to limit her reading to these alone. There should be systematic study of standard works. The former provide for the present, the latter are looking to the future. Educational papers are more or less transient in their effects; standard works seek permanent results. Many superintendents offer their teachers courses of reading in which are outlined suitable books for each year. Examinations are held, and certificates are given to those who complete the course. Such reading often furnishes the superintendent an excellent means of estimating the progress of his teachers and in determining their worthiness of advancement. In many cities and counties there are teachers' libraries, and in some cases the State duplicates the amount of money, up to a given sum, which the teachers raise for this purpose.[1]

But every teacher should possess a few choice educational books of her own for ready reference and study. We have now a rich pedagogical literature covering every field of educational endeavor. A generation ago one could almost count on the fingers of one hand the number of books in English on this subject that were worthy of perusal. But this is no longer so. Educational writers have been wonderfully active during the last quarter of a century and each

[1] In New Jersey this sum is $100 a year.

year witnesses the production of hundreds of new books on this great subject. Moreover writers have ceased to be solicitous of being thought profound, stress being laid upon simplicity and lucidity. "I hate this subject because I cannot understand it," exclaimed a young teacher who was required to read through one of the old-fashioned works on pedagogy for an examination.

The science and art of teaching furnishes a field of interesting material unsurpassed by any other field of human thought. Why present this material in language hard to comprehend or in terms that are obscure? Language is the vehicle of thought and it is the thought that we are after. Why make the language employed so hard to understand that there is no mental energy left for mastery of the thing wanted, the thought?

The purpose of reading pedagogical literature has not so directly to do with the school work as to promote the general professional growth of the teacher. Problems of education are considered and the reader is not so much concerned with such questions as, "What am I to do with my classes tomorrow?", "How shall I correct this or that evil?", "How shall I get my pupils ready for promotion?", etc. Books on pedagogy set the student to thinking upon such broad matters as a properly balanced and harmonized course of study, the preparation of the pupils for life's work, their moral as well as intellectual upbuilding, the adjustment of the work to suit the individual, the best method of presenting each subject, the formation of good habits, how to arouse interest —

in a word, the best means of stimulating educational purpose. Therefore no teacher can afford to ignore this means of growth.

(c). *General literature.* — There is a third kind of reading that the teacher must pursue in order to take a broad and intelligent view of life, and that is the field of general literature. The tendency of teaching is to narrow one's view of life because the teacher is constantly appealing to those below her in knowledge. To counteract this influence the schoolroom habit of thought should be dismissed when out of school, association with people of other interests sought, and a taste for general literature cultivated. This will not only be a source of pleasure and profit to the teacher, but it will also show itself in the enlarged influence which the possession of such general culture will enable the teacher to exert upon the pupils. For every teacher should possess resources far beyond the stated requirements of the curriculum. The right kind of reading in the field of history, biography, and general literature will furnish such culture. It will counteract the tendency to pedantry often manifested in school teachers, and furnish a never ending source of satisfaction and profit to the teacher.

II. Teachers' Meetings

(a). *Faculty meetings.* — There is a variety of teachers' meetings that should stimulate growth. The first to mention is that of the teachers of a faculty or school. In these meetings the wise principal will not only direct the activities of his school, keeping in touch with the work of all his teachers, but he will also

lead them into higher planes of educational work. Of course questions of discipline will be discussed, the progress of the classes as well as individual pupils will be noted, the work kept in harmony and often matters connected with general direction of the school considered. But besides this, there should be work outlined that looks to the improvement of the teachers. The nature of this work will depend upon the character of the school system, the number of teachers, and the training which the teachers have already had. In general, it should stimulate growth in educational matters that have no direct bearing upon the daily work. It should take the teachers into fields that will broaden and strengthen their general conception of the problems of education. This can be done by assigning some part of a book for study and discussion, by calling for reports by individuals upon various themes, by essays, debates, etc. Such work can be made most profitable and it will react upon the schools and make them more efficient.

(b). *Teachers' associations.* — We have been considering in the foregoing the growth of the teacher as fostered by local meetings. General teachers' associations have other ends in view. They bring together the teachers of different systems, thereby affording an opportunity to compare work, to study general educational problems, and to gain inspiration from one another. In these meetings since the teachers make out their own programs, they are therefore able to discuss matters of deepest interest to them, to direct the policy, and often to conduct the exercises themselves.

The most helpful associations are those of the latter kind, that is, those in which the teachers themselves are on the program and conduct the exercises without calling upon outside speakers. If the membership is not too large so much the better, for there will be greater freedom in discussion and more frequent opportunity to take part. I will illustrate my thought by describing an actual meeting that I attended. It was a county meeting and there were about fifty members present. The county superintendent during his visits in various parts of his district had noted work that was especially suggestive and advanced, and had invited these teachers to bring their work before the association. One teacher with very meager outfit had produced some very excellent specimens of clay modeling, which she exhibited explaining how the work was done. Another had been very successful in curing tardiness and irregularity and her scheme was described. Another explained how she had interested parents in the school. Successful methods of teaching different subjects were presented. All these exercises were discussed by the members, questions were asked, criticisms freely offered, and the interest was general. It was a splendid meeting because every one present got something out of it. There was growth, educational, professional growth; and that was chiefly because the teachers did something themselves. They were "learning to do by doing"; they were most practically illustrating the principle of self-activity, and when I was called upon to address them I frankly told them that they had better leave me out and go on with the work they were doing. Of course

in great state and national associations this plan cannot be carried out. They can only discuss the general problems of education. Therefore they cannot be such a means of individual growth to the teachers. Their purpose is general and inspirational and they exert a tremendous influence upon the educational welfare of our community.

I would advise the teachers of a township or locality to organize themselves into small groups for the study of their own problems. They could take some educational work as the basis of study, appointing one of their number as leader, but should not fail to compare notes, to discuss schoolroom questions, to present their difficulties, and in a friendly way, to criticise one another. This will also take the conceit out of a teacher. I have already shown that there is a narrowing tendency in our daily contact with young children. We build up our theories and there is no one capable of showing the fallacies that may exist. We are the "law and the gospel" in the schoolroom, but not so in the teachers' association. If our pedestals have not a sound foundation there will be some one to knock out the underpinning and let the structure fall. Better that our most precious idols be cast down if they are false idols, than that they be allowed to stand and continue to deceive us and others. Nothing will do so much for the professional growth of a teacher, considering the time and money invested, as membership in the right kind of teachers' associations.

III. Teachers' Institutes

Most states of the Union provide at public expense institutes for the upbuilding of teachers, lasting from one day to several weeks. Inasmuch as these are furnished free of cost to the teacher, her salary being paid while she is in attendance, the least that the teacher can do is to enter into the spirit of the work and seek to obtain the full benefit of the enterprise. Many of these institutes are a great means of instruction and inspiration. The teacher gets away from the routine of the daily work of the schoolroom and is afforded an opportunity to listen to advanced thoughts on education presented by educational experts and to enter into the discussions of new and important theories. Honesty towards the state, towards their pupils and patrons, and towards themselves would require an eager and attentive attitude on the part of teachers.

The character of the work in teachers' institutes should be serious and instructive rather than merely entertaining. The problems of education should be considered, new methods presented, and inspirational themes discussed. To young and inexperienced teachers this is an exceptional means of growth. Nor need the teacher of long experience feel that the work of the institute is unworthy of his attention. There is always something worth while to all concerned in every meeting of this kind. If nothing else resulted, the association with other teachers and the contact with those of sympathetic interests would make the meeting of great value.

Doubtless the increased number of normal and train-

ing schools, the summer schools for teachers, the better supervision of schools, and the rich pedagogical literature have greatly elevated the teaching profession and therefore lessened the need and changed the purpose of the teachers' institute; and yet, it still has a place in our educational policy. It should bring to notice the many new problems of education; it should suggest, inspire, uplift and diffuse enthusiasm. It must not be forgotten that every September there are one hundred thousand young men and women who begin teaching, most of whom have had little preparation. The teachers' institute is worth what it costs even if we take into account only the bringing together of teachers to confer, to discuss, and to learn from one another.

IV. Pedagogical Courses

Besides the normal schools and training schools and the teachers' colleges, there are summer schools and pedagogical courses in universities which offer abundant opportunities to the teacher anxious to grow. Many universities are offering Saturday and evening courses for teachers in their neighborhood, which may ultimately result in a degree; thus it becomes possible for teachers while earning their livelihood to continue their education and thus perhaps satisfy an earlier unfulfilled ambition, namely, the acquiring of a college degree. Many boards of education encourage their teachers to take such special courses by offering increased salaries and promotion to those who avail themselves of such opportunity.

There is thus an abundance of means for the ambi-

tious teacher to advance in professional knowledge. The teacher who is wanting in such ambition will soon fall to the rear. Greater demands are being made upon our schools every year and these demands can be met only by the advanced qualifications of the teaching force. The teacher who does not grow will soon be crowded out of the profession.

CHAPTER IV

WASTE IN EDUCATION

Waste an American Characteristic.— This country has been noted for the waste of its material resources. There has been waste in our forests, waste in the matter of municipal rights, waste in our water power, waste of public domain, waste in the manner of tilling the soil and conserving its strength, waste in the methods of manufacturing, waste in the manner of transporting and marketing the products of farm and shop, waste in public life and in private life. We are the most wasteful nation on earth. Having exhausted and dissipated so much of our tremendous natural wealth, we are compelled now to meet other parts of the world on equal terms. Legislators and public economists have at last come to realize the situation and are seeking to conserve what remains and to introduce economic reforms. Many of the European peoples are gathering three or four times the amount of crops per acre that we are gathering and from land that has been tilled a thousand years, while we are abandoning farms as "worn out" before they have been tilled scarcely a century. The remarkable transportation facilities of modern times on land and sea have brought the people of all lands nearer together and we find ourselves no longer isolated but a world-

power and obliged to compete with other nations in trade, manufacture, and agriculture. All along the line men are engaged in studying how to eliminate waste in business, how to economize in production, how to save the by-products. Is it not fitting that educators should catch the spirit of the times and seek to eliminate educational waste? For there surely is waste in our educational practice. To know a disease is the first step toward its cure. I shall endeavor to point out some features of educational practice in which there is needless waste.

1. Waste in the Selection of Material.[1] — Criticism of the public school is frequent in the press, on the platform, in business circles, and among parents. This has always been the case and always will be. The criticism is, however, not always just, reasonable, or constructive. How often one hears a person who has reached mature years say something like this, "The schools are not so efficient as they were when I went to school"; or "They don't teach so thoroughly as they used to do when I was a boy." Of course there is an element of egotism in such remarks that is rather amusing. The fact is, the children are being better taught than they were in the last generation or in any other generation. They know better how to read, write, and cipher, and they have a better knowledge of the fundamental subjects upon which such stress was laid in the past. Besides this they are learning many subjects that were not thought of in those times which, however, for a practical preparation for the

[1] See Chapters VIII to XV for a further discussion of methods.

present activities of life, have become imperative. The criticism centers on the teaching of the "practical subjects," meaning the "Three R's." That even these are better taught now than ever before is capable of abundant proof. One has only to visit the schools to find this proof. But the celebrated and oft-cited case of the Springfield, Mass., examinations abundantly substantiates the statement. I may be pardoned for repeating this historic evidence. Some years ago papers covering examinations in arithmetic, spelling, and other subjects of children in the eighth grade were discovered. The date of these examinations was 1846. Here was definite evidence of the work in some of the best schools in the country half a century ago. These same questions have recently been given to pupils of the same grade in many schools in all parts of the land, and there has not been a single instance in which the pupils of the modern school have not far surpassed those of the earlier time. And these are the very subjects for which the old-time school chiefly stood.[1]

One great trouble with the critics is that they fail to take into account modern requirements. They forget that many things demanded of the modern school if needed at all were taken care of in the home, at that time. Half a century ago there was little study of geography and not much need of it. Indeed, but little was known of the geography of our country, as

[1] One typical record is as follows:

	1846	1905
Spelling	40.6	51.2
Arithmetic	29.4	54.5

There are many others, equally suggestive and comparative.

is shown by an examination of the old maps, especially those of our great West. A vast territory, now comprising several states and cut up into millions of fertile farms yielding immense crops of cereals, which make our country famous and which bring untold wealth, was known as "The Great American Desert." However little a knowledge of geography might have been necessary in those times, it certainly is absolutely essential now for every intelligent person, not only for purposes of travel, but also for an enlightened comprehension of the news of the day. Moreover, such knowledge is invaluable to one engaged in trade or transportation, for the price of staples is affected by weather conditions which affect the crops. The wholesale grocer watches the weather reports during the season of planting, growing, and harvesting of crops, and is governed thereby in the purchase of goods. But these reports will avail him little if he is ignorant of geography and does not know the sources of his supplies. Thus knowledge of geography becomes a business asset. Therefore it is necessary to teach geography in a practical way such as was not required in the old time school.

So, too, a knowledge of physics has become essential. The wonderful discoveries and inventions connected with electricity alone make necessary a great deal of teaching for which there was no call half a century ago. The application of electricity in lighting and heating, in power to drive machinery in factories and in locomotives, and in the various arts, opens fields of practical study that every intelligent person must enter. The same is true of chemistry, a knowl-

edge of which in its relations to foods, soils, and in the manufactures and arts is absolutely essential to prepare one successfully to compete in life's activities. Ignorance of these matters seriously handicaps a man who must meet competition in the strenuous life of the present. Manual training and domestic science, which in former times were taken care of in the home, in some measure perhaps sufficient for the times, must now be provided in the schools. The enlarged sphere of woman's activities necessitates a training for girls such as formerly was not needed.

All these things, and many others, have added great new burdens to the requirements of the school. None of them can be omitted, and if they were, the grounds of criticism would be sounder, and they would justly be proclaimed vigorously. A preparation for life under our present civilization is a far different problem from that of half a century ago, and it would be inexcusable if the schools did not earnestly seek to meet it. That educators are earnestly seeking to meet present conditions, to solve present problems, to prepare the children for the life they must live, cannot be doubted.

Teachers appreciate the deficiencies and weaknesses of the schools better than other men because they are experts and are ever in contact with them. Let no critic of our schools believe for a moment that the schoolmaster hugs himself with the delusion that our educational system is perfect or that the schools are doing all that can be done for the child. We know the defects of our work just as the skilled mechanic sees defects in his workmanship, the artist recognizes

imperfections in a painting, or a musician detects discords. The greater the professional knowledge, the keener the appreciation of defects. Every one will admit that the teachers are better qualified than ever before in the history of the world and therefore the schools must be better. For it is forever true that "As the teacher is, so is the school." Admit that the teachers are better and it then follows inevitably that the schools are better.

(a). *What should be eliminated.* — Waste in the choice of material is not found then in the addition of these new and essential subjects to the curriculum, these so often falsely called "Fads and frills," but rather in the retention of some of the so-called "fundamentals." The old-time arithmetic devoted a great deal of space to such subjects as, Duodecimals, Stock-jobbing, Compound Interest, Partial Payments, Banking, Exchange, Equation of Payments, Arithmetical Progression, Euclidean Method for Highest Common Factor, Complex Fractions with more than one fraction in the numerator and denominator, impractical tables of measure, many formulas in Interest, etc. These took an immense amount of time and yet they have but little practical use except in special occupations. They do not conform to modern business practice and therefore are of little value in preparing for business life. Indeed, business men employ tables for computing interest, and other devices in computations that secure more rapid and accurate results. All the arithmetic needed in practical life can be taught in much less time than is usually devoted to that subject, thus leaving time to devote to other work.

In like manner other subjects taught in the schools contained much that was useless. The process of elimination has already begun and must continue until the material in any subject will be such as shall prepare the child to compete intelligently with his fellowmen under present conditions of life. To teach the child to spell individual words without reference to their meaning, is waste; to have him commit pages of history and lists of dates without considering the relation of history to life, is waste; to give him rules of grammar without employing them in the construction of sentences, is waste; to teach him definitions, and to locate places in geography without showing him how they relate to human life, is waste. And, as already remarked, there is far more waste in these things than there is in the introduction of new and practical subjects, not found in the old curriculum, because the latter are vital and essential.

(b). *What the child should know.* — It may be well, in this connection, to ask what may reasonably be expected of the school, what goal has the parent a right to expect his son or daughter to reach at the conclusion of the common school course at about fourteen years of age. This is a fair question and a consideration of it may aid the teacher in his own work and the parent to form a just estimate of the efficiency of the school. I think a child who has completed the common school course should be able (1) to read his native language intelligibly and with understanding; (2) to express himself with tongue or pen accurately and fluently, using good English and correct spelling; (3) to know the geography of our own country thor-

oughly, its climate, its productions, its industries, its cities, its river and mountain systems, its variety of surface, its means of transportation, and its waters, as well as a general knowledge of the geography of the rest of the world; (4) to know the history and the civil institutions of our own and other countries; (5) to possess such knowledge of arithmetic as is necessary for the ordinary requirements of life; (6) to know the structure and functions of his own body so as to be able to conserve his health; (7) to have such an acquaintance with natural science as will enable him to interpret the phenomena of every day life as he meets them; (8) to have such æsthetic training as will enable him to appreciate music and art and utilize whatever gifts in this direction he may possess; (9) his mind should be stored with many gems of literature, and a taste for and knowledge of the best works should have been established; (10) finally, he should be indoctrinated with the spirit and forms of politeness, the basis of which is unselfishness, and which is the essence of moral character. These things should be accomplished in the elementary school, and if it fails of this result, parents may well call the school to account. The material selected should be such as will aim to teach these ends, and whatever material will aid in this purpose cannot be denominated waste.

2. Waste in the Employment of Incompetent Teachers. — I have already shown (*page* 22) that a large proportion of our teachers are untrained. Let us see what this really means from an economic standpoint. It should be borne in mind that the money spent in maintaining the school, the salaries of teachers and

janitors, the furnishing of supplies, the heating, lighting, and up-keep of the plant, together with the interest on the investment, is after all, only a small part of the cost. Even a child's time has a commercial value, else there would be no need of child labor laws to protect children from the avarice of parents and the greed of employers. Economists have estimated that a child of fourteen has a commercial value of at least three dollars a week. Placing a lower value upon all the children of the elementary school, an average, say, of two dollars a week, and multiplying this by the number of children in a class we have a sum far exceeding all the recognized school expenses. As a concrete illustration, suppose a teacher to be employed at $600 a year; estimate janitor's service for her room together with supplies, repairs, interest account, etc., at $400; making a total outlay of $1000 for the class. If there are 35 children in the class whose service is worth $2 a week each, or $70 for the 40 weeks of the school year their commercial value is $2800, or nearly three times the cost of running the school. If this reasoning be sound, and it seems to me that it is, how important does it become from a purely commercial standpoint that the time of the children shall not be wasted by placing a poor teacher over them. A member of a school board once remarked after a year's service of an incompetent teacher, " The community and the children would have been better off had we closed the school and thrown the money invested for it into the Atlantic Ocean." And he told the truth in a deeper sense than he realized. A poor teacher is a poor investment from any stand-

point. Indeed, it is a great waste, and the financial loss is by no means the most serious loss even if we reckon both the actual outlay and the value of the children's time. The failure to make reasonable progress and to receive the best preparation for life, the forming of bad intellectual and moral habits, the acquisition of wrong ideals, the lack of stimulating and uplifting ambitions — these and many other perils are among the possible results of poor teaching. Teaching in the highest and best sense is both a science and an art, as has been shown, and no one should undertake it without a knowledge of both. Therefore boards of education that employ unfit teachers because they are cheap are recreant to their trust. Not only are they wasting the money of their constituents, but worse still, they are robbing the children of their rightful opportunity, and are adding to the number of future inefficient men and women.

3. Waste in Wrong Methods. — Closely allied to the foregoing is the waste in methods of instruction. In the early period of the child's life, he can be reached only through the senses. A knowledge of the great lesson that Pestalozzi emphasized, the proper use of objects, is essential to the equipment of the primary teacher. And yet, right here, a caution is necessary. Many young teachers, having learned that the child learns through concrete illustration, conclude that the more objects employed the better. In teaching number, for example, they bring in blocks, splints, kernels of corn, beans, and marbles, etc.; thus overwhelming the children with a great variety of objects. Such multiplicity of objects serves to distract the mind from the

purpose in view, which is to teach *number*. A young teacher made from cardboard a beautiful Swiss cottage for her class in number. She was to teach the number six and the cottage had six windows, each with six panes of glass, and various other devices involving the number six. The children naturally were delighted with the house and their wonder and curiosity were excited. But it was impossible for her to attain the end in view, the teaching of the number six, because their minds were distracted by the object itself, the cottage. Had the purpose of the recitation been to discuss Swiss life, or to study architecture, or to awaken the æsthetic sense, her creation would have been entirely suitable. But as a means for teaching the number six it was a failure. It must not be forgotten that every particle of interest devoted to the object itself is so much interest withdrawn from the end sought. To use attractive objects in teaching number dissipates the attention. For example, if a teacher were to use oranges or apples, inevitably there would be aroused in the minds of the children ideas of taste, smell, color, possession, etc. Therefore the simplest kinds of objects must be employed, which, while they furnish sufficient concrete illustration, do not distract the mind from the real purpose of the lesson. The end sought must never be lost sight of. "What was the purpose of that lesson?" was asked of a young teacher who had just enthusiastically held the interest of a class of little children. In confusion she replied that she did not know, that she really had no definite purpose. Her work was entertainment, not teaching. The lesson should be entertaining, or at

least interesting, but it must have an end in view or there will be no instruction. No mere method can be successful unless the teacher has from the outset a clear notion of what she is seeking. The teacher of young children must understand the activities of the child mind, must appeal to it by objects and illustrations, and must know how to choose wisely the kind and number of objects, in order to reach the end she clearly has in mind.

In later grades there will be a gradual withdrawal of the concrete, for it may well be said that the end of education is to gain abstract notions. So long as illustrative material is needed, let it be used; but do not use it when it is no longer necessary. When the child does not need it it is only a hindrance to acquirement. Teachers often have trouble in preventing children from employing their fingers in counting or adding. They forbid the practice and use various devices to keep the children from doing it. Such a course is absolute folly, for no child will count on his fingers if he knows the results without doing so. Drill until the abstract idea has been gained, and there will be no need to forbid counting on the fingers. The child will take the "short cut" in his work so soon as he is able to do it, just as an adult will. When he knows instantaneously that 4 and 3 equal 7 he will never resort to his fingers. Therefore the effort should be directed to bring the pupil to a knowledge of the abstract. No particular age or grade can be specified at which the concrete shall be abandoned. Concrete illustration is employed in the laboratory of the higher institutions, in the biological and medical

clinic, by public speakers before adult audiences. Let it be used so long as it will elucidate and emphasize the truth to be taught, and let it be abandoned when its purpose is mere entertainment rather than instruction.

The method employed with older children gradually becomes more abstract. When one method fails, the teacher must be versatile in the employment of other methods until the result is attained. The presentation of a subject by a variety of methods tends to fix the knowledge more thoroughly. The teacher must be grounded in theory and practice, must know the child mind, and be able to adjust his teaching to each peculiar type of mind and to the stage of development it has reached. Lack of this means waste of effort and a want of adequate success on the part of the pupils.

4. Waste the Result of Poor Physical Conditions. — There are many things belonging to the physical environment of the school that contribute to the waste in educational investment. Uncomfortable surroundings, such as improper seats, bad light, lack of suitable equipment, poor ventilation, and unsanitary arrangements, etc., prevent the children from doing their best work, and therefore cause a serious waste. These conditions often cause permanent injuries such as curvature of the spine, ill-health, round-shoulderedness, nervousness, and sometimes incipient tuberculosis. Medical inspection is doing much to remove and overcome these evils; but, as yet, it can only touch the surface. No doctor's prescription can counteract the evil effects of an unsanitary school building with poor ventilation and bad light. The remedy lies back of the medical

inspection, however efficient this may be; it lies with the school board whose duty it is to furnish proper school facilities, and still back of them it lies with the people who supply the means. Lately many school systems have employed a school nurse whose duty it is to carry out the directions of the medical inspector, and a school visitor who goes into the homes and seeks to instruct and interest parents in matters of health. It has been said that "No one has ever seen a mind that was not connected with a body." Such being the case, care of the body becomes of vital importance in caring for the mind.

It can easily be shown that poor ventilation reduces vitality, weakens the power of attention and thus materially diminishes the efficiency of the school. A concrete illustration will show the material saving in the matter of ventilation. A good system of ventilation was installed in a school building at an expense of $3000. The cost per annum of maintenance was estimated at $500. Allowing interest on the investment to be $200; the total cost per annum was $700. In that building 600 children were taught at an expense of about $15000 a year. Pure and wholesome air was always found in the rooms at all times of the day. If ten per cent was added to the efficiency of teachers and pupils because of these healthful conditions, and surely that would be a conservative estimate, it will appear that the investment of $700 was yielding an annual return of $1500, if one could commercialize teaching power. I remind the reader that this result does not take into account the far greater question of health of both teachers and pupils.

School equipment. — Many boards of education, especially in rural communities, fail to appreciate the need of proper school equipment. Who does not know of school trustees (farmers, perhaps) who expect the teacher to get along with inadequate facilities — books, maps, and other necessary equipment — who would not be so foolish as to send their men into the field to work with poor tools? Just as the farm-hand or the mechanic can show his efficiency only when supplied with proper tools, so the teacher is handicapped when not supplied with the necessary materials. There is tremendous waste in these particulars. A superintendent presented to the assembled school boards of his county a carefully worked out scheme whereby for $83 seven sets of supplementary readers for the eight grades, sufficient for the whole township, could be purchased. He showed how these books could be passed around to all the schools of a township so that every child would have an opportunity to read from seven books and thus get an enlarged vision of the riches of literature instead of going over the same material again and again in one book. And this for $83 for a whole township! The proposition did not arouse a particle of interest in the minds of those trustees. One could not help wondering what would have been their attitude had he presented a scheme whereby they could increase the output of their dairies or get more bushels of corn to the acre. And yet, this man was presenting a plan by which their children would obtain the richest heritage of the world, an acquaintance with the great thoughts of great men. It goes without saying that it is the poorest kind of busi-

ness policy to build a schoolhouse, hire a teacher, and then fail to furnish the necessary tools to work with.

There is another field in which the physical plays an important part, and that is in the matter of food. The body cannot perform its proper functions, without sufficient nourishment any more than an engine can run without fuel. During a prolonged strike in the coal mines in the middle west it was found that the children of the miners became unequal to their former intellectual tasks. Lack of funds in the homes necessitated a restriction in diet and the children came to school hungry and incapacitated for vigorous work. How many children, especially in our city schools, come to school every day with empty stomachs! How can we expect vigorous work, either intellectual or physical? Recent investigations have proven that many children come to school without breakfast and this has led to provision being made to furnish them food, sometimes at public cost and sometimes by private philanthropy. Here arises a serious problem, namely, the danger of encouraging pauperism. If the state should supply food for school children would not parents neglect to provide for their own offspring? Does it not tend to paternalism?

Let us see how far the state has already gone in this direction. First, the schools were partly free, a small tuition being charged, the balance being paid from public funds. Next the public school became wholly free. Then followed free text-books and school supplies. Later came free transportation to those living too far away to walk. The question may well

be raised, when will the end be reached? Shall the child be fed and also clothed at public expense? Are we not tending towards the condition of Rome when she began to decline? But the ill-fed child is unable to do efficient work, and the state has undertaken to educate him. On the one hand there is the child incapable of education from want of nourishment, and on the other hand there is danger of pauperizing the people. The child must be fed if he is to learn. Who is to feed him? I think this should be undertaken chiefly by philanthropic societies, the state supplementing their work only when necessary. Aid received from philanthropic sources is regarded as a favor; that received from the state is regarded as a right. Hence the former has less tendency to pauperize. A commission should be appointed whose duty it would be to look into the merits of each case, who should have power to compel parents to do their duty whenever able to do so, and who should then contribute both food and clothing to all needy and worthy cases. This would minimize the danger of encouraging unnatural parents in negligence of their sacred duty towards their offspring.

A writer interested in this subject has well said, "Just as it is useless to try to convert a hungry man, so also it is useless to try to develop a child who is underfed, who is unhealthy, who is in an uncomfortable atmosphere, or who is suffering from some physical defect. No one knows how much money is being wasted in attempting to teach under such conditions. If efficiency means anything, it means more than effort put forth, it means more than expended

energy, it means predominantly the maximum results that may be obtained with the minimum amount of energy expended. Poor ventilation means waste; poor home conditions means waste; poorly adapted and selfconscious-making clothing means waste; physical defects means waste in capital letters, and uncomfortable school furniture means waste."

5. Waste in the Limited Use of the School Plant.— Hundreds of millions of dollars have been invested in this country in school plants. The schoolhouse is the pride of the community and nothing so stimulates settlement and investment in a town as good school buildings and good schools. A wealthy real estate dealer bitterly fought the erection of a new school building in a village. But so soon as the building was erected in spite of his opposition, it was noted that he was shrewd enough in advertising his property to proclaim the proximity of a fine school. He knew that the establishment of that school had enhanced the value of his property very materially. No apology is made, therefore, for the expense of good school buildings provided they are needed, are built economically, and are suited to their purpose. But they lie idle for a large part of the time. Occupied for less than six hours a day, and for an average of less than half the days of the year, there is a tremendous waste in the investment. What manufacturing plant, what store, what industry of any sort could survive if it followed this practice? Many of these enterprises work night and day in order that the great investment in the plant itself may yield suitable returns.

The school to be a social center.— There is a grow-

ing sentiment for making the school a social center where not only children may freely gather outside of school hours for instruction and amusement, but where parents also may convene for social and intellectual purposes. Such a practice would not only be a great boon to many parents, but it would also popularize the school itself. At great expense philanthropists are erecting and supporting buildings for the Y. M. C. A., the Y. W. C. A., and other organizations, with the idea not alone of awakening religious zeal, but also of providing safe places for amusement and social intercourse. Why not also utilize the public school plant already at hand? Religious questions need not be introduced as people of all forms of belief have an equal right to the public school. But it may be mentioned that the rural schoolhouse has been used for more than a century as a meeting house, where the itinerant preacher periodically proclaimed the word of God, and is still being so used.

Many educators have come to believe that the summer vcaction of nearly three months is a serious drawback to the educational progress of the children. Even this is often extended by thoughtless parents who take their children away to a summer resort a week or two before the close of school and bring them back several days after school opens in September. Vacation schools accordingly are being maintained ostensibly to enable backward children to make up their work, but it has been found that many parents send their children to these schools even though they are not behind in their studies. After a long vacation without study the child returns to school rusty, and

considerable time must be spent to bring him back to the point where he was when school closed, thus, in effect, shortening the school year, and again adding another item of waste. Vacation schools are already taking a strong hold upon the community, and are destined to take a still stronger hold.

Let the public school be open to children and parents outside of school hours for purposes of amusement and recreation, for social and intellectual advancement, and for anything that will uplift the community. Let there be books, and magazines, and newspapers, and games, and gymnastic apparatus, free for the use of all, under a suitable direction supported by the public treasury. Such use of public money is justifiable and is a good investment. In Gary, Ind., the schoolhouses are open day and night for seven days in the week. In a certain city a sum of money was appropriated for the maintenance of several playgrounds on school premises during the summer. The police judge, before whom juvenile criminals were brought, testified that in this first year's experiment, the number of juvenile cases that came before him was less than forty per cent of that of the previous year. A good investment, surely, not alone in the saving of court and jail expenses, and in saving of fines, but far more in the lives of the boys themselves. Let there be organized social clubs, mothers' clubs, and other organizations for mutual good, with the schoolhouse as the place of meeting. The school plant can thus be utilized so as to be a public good all the time and not for the limited time it is now used. It can be made a wonderful help in uplifting a community who here can meet on common

ground. This, instead of being isolated for school purposes a few hours a day. And such use of the school plant would greatly help the teacher in his work.

6. Other Causes of Waste. — I can only allude to some of the other means of waste in educational practice. If the daily program is not properly arranged there may be a serious waste of energy by teachers and pupils. Psychology and experience teach us that some subjects can be grasped and remembered better when presented at certain times of the day, and that other subjects do not lose by being placed at a less favorable period. Obviously the schedule of work should be so arranged as to cause the least possible loss, taking all the subjects into consideration. Failure to do this would mean a great waste. The teacher therefore should study the arrangement of the daily program.

Then there is waste in the presence of the backward child. He takes an unusual amount of the teacher's time, hinders and retards the other pupils, and does not make suitable progress himself. I shall leave a further discussion of the backward child to another chapter (Chapter V).

Again there is a great waste in the loss of children from school. All countries substantially agree that it is the duty of the state to require the child to be in school till he is about fourteen years old. Ayres has shown that by the time the eighth grade is reached, one-half of the class that started in the first grade have dropped out. Somewhere along the line they have fallen by the way. Some have dropped back into lower classes, or remained unpromoted, while many

have left school. If we include the high school, he shows that only one in eighteen reaches the fourth year. There certainly is great waste here, for analysis of which I must refer to the work below cited.[1] Ayres shows in addition that in 55 cities 15.4 per cent of the pupils are repeaters.

There is also great waste in irregular attendance. This is a loss not only to the offenders themselves, but also to the rest of the class. No parent can say that keeping his child from school is his own business, for every child is entitled to an education and that right is superior to any interest the parent may have, and the irregular attendance of the few affects the progress of the class as a whole.

The cost of our schools is increasing by leaps and bounds; teachers, while getting better salaries, are still inadequately paid; antiquated and unsanitary buildings are being replaced with modern and attractive structures; better equipment is being supplied, and the cry is ever, "More money for the public schools." The people are responding nobly until the expense for schools has become the chief item of the tax budget. It therefore behooves teachers and school boards to remove every element of waste in the schools, whether found in any of the directions pointed out or in any other direction. Dewey says, "What we want is to have the child come to school with a whole mind and a whole body, and leave school with a fuller mind and a healthier body."

[1] Ayres, "Laggards in Our Schools," pp. 58 and 59.

CHAPTER V

BACKWARD AND DEFECTIVE CHILDREN

The Problem of the Backward Child. — There is scarcely a schoolroom in the country that is free from children who are below grade from some cause or other. These children are often a fertile source of disorder, a menace to the morals of the school, and a cause of anxiety and extra labor to the teacher. They may be divided into two general classes, namely, the *backward* and the *defective* or *subnormal.* Were the school freed from these children, the work would be far more satisfactory and school more congenial and successful. But the school can never be entirely free from the first class, the backward, and perhaps not from the second class, the defectives. At least not until the people become convinced of the need of segregation, and not until more adequate means are provided for it. Public attention has recently been directed to the better care of these unfortunates and a serious study of the best means of dealing with them is being made.

Greatest efficiency on the part of the teacher is prevented by the presence of delinquent pupils who act as a drag upon the progress of the class as a whole, and who, it has been found, are the chief sources of disorder. Moreover, the morals of the school are often contaminated by the presence of one or two children,

who are backward in their studies and deficient in moral and mental capacity. Surely those parents who have trained their children in right conduct and pure life should not have their work undermined in the public school by children of vile habits. Such children must be removed, not alone for their own sakes, but also for the good of the other children, so soon as they are found to be a menace.

It has been said[1] by experts in this work that "The problem of the backward and dull child in the public school has recently assumed an unexpected importance. Formerly the idea was to eliminate him, or by proper punishment, or educational procedure to try to compel him to take his place with the rest. He has been the constant bane of superintendents, principals, and teachers. Not infrequently, the school board itself has been called in to settle the trouble that he has made. We now know that he is not to be made over into the ideal pupil, but that he is to be accepted and dealt with as he is; that his difficulty is largely a constitutional one and that he constitutes a special problem which can be handled only by special methods. While in most cases he is not capable of being made like other children, for that very reason he requires exceptional care and treatment. The importance of this is shown by the now demonstrated fact that unless cared for, he grows up to become a pauper or a criminal, a delinquent or dependent. It is now believed that at least one-quarter of our drunkards, paupers, criminals, prostitutes, and ne'er-do-wells

[1] "The Education of Backward and Mentally Deficient Children," Prospectus of New York University Summer School, 1913.

were dull and backward children. They were backward not merely in the sense of being slow and needing to be spurred onward, but backward because they were of a peculiar mentality which could not be trained to do the work that other children did. In other words, a large percentage of our criminal classes are distinctly feeble-minded.

"The recognition of this fact places a great civic duty upon the school authorities. If the school accepts the problem and does its duty, these children may, to a large extent, be saved from a life of dependency and crime, made reasonably happy and a little useful, although they never may be made normal.

"Furthermore, the relief felt in those classes of normal children where these defective children were formerly, is so great as to work an actual revolution in the entire situation. The grade teacher, thus relieved of the dull and defective children, is able to carry on her work with a satisfaction not before dreamed of. Her time, attention and energy are not distracted and dissipated by these dullards and she is able to give her best to the normal children that are left in her rooms. The effect is very great upon these normal children who are thus spared the example of the slow and often apparently bad children. The problem of truancy and incorrigibility is largely solved, since the defective is the type of child that makes up the greater part of the truants and incorrigibles."

Causes of Backwardness: Classification. — Backward children are not necessarily defective. There are many causes of backwardness, such as, absence from school, adenoid growths, enlarged tonsils, defective eyesight

or hearing, insufficient nourishment, late entrance to school, ignorance of the English language, too many demands upon them by their parents, etc. No careful study of these causes has been made until recent years. Valuable light has been thrown upon this subject by an investigation under the auspices of the Russell Sage Foundation by Mr. Ayres.[1] He has shown[2] that in 33 cities the percent of retardation varies from 7.5 to 75.8 percent, and he thinks that approximately one-third of the children in our city schools are above the normal ages of their grades.

Nor has there been made any systematic attempt to provide for these backward children until recently. The state of New Jersey has taken the lead in this work by passing a law (in 1911) requiring an investigation of the number of backward children in all the schools of the state, and providing for the establishment of special classes for their instruction. In view of the pioneer work in this important field a full presentation of the plan may aid others. The Department of Public Instruction of New Jersey in a pamphlet on "The Treatment of Subnormal Children," has offered some important suggestions. It proposes that all retarded children shall be grouped as follows:

CLASS A. **Miscellaneous.** — This class includes (1). *Foreign-born children* unfamiliar with the English language. These should be arranged in classes of not over 25 pupils and an elastic and liberal scheme of promotion should be provided: (2). *Children who entered school late* or have been irregular in attendance.

[1] "Laggards in Our Schools," by Leonard P. Ayres.

[2] *Ibid.*, page 45.

These should be treated in a manner similar to the foregoing: (3). *Physical defectives* who are not necessarily mentally subnormal. They may have defective eyes, ears, vocal organs, or enlarged adenoids and tonsils. This class should have special medical treatment with a view to the removal of the difficulty. Care should be taken that no stigma may be attached to these children who are by no means mentally subnormal, but unfortunate rather.

CLASS B. **Incorrigibles.**—The presence of these pupils is a menace to the good order and to the morals of the school. These are to be removed to a special school where the course of study is limited to their needs, emphasis being laid on training the manual activities. Experience has taught that such children very generally abandon their vicious practices when set at work with their hands. It has also been found that insubordinate children, when taken from the regular classes and placed in a group by themselves under sturdy, strong, and wise teachers, cease to be insubordinate. Usually such boys love to "show off" and astonish other children by their boldness and wickedness, and when segregated with others of like tendencies, they no longer have a motive to be bad and their occupation is gone. After all, the secret of the government of a school lies in the power to keep all the children happily interested. Many of these children have found nothing in the regular school work to interest them, and they have broken loose from orderly restraint.

Manual and industrial arts appeal to them, and when they are given an opportunity to learn th

things, their viciousness disappears and they may be trained to become useful citizens. The New Jersey laws permit any board of education to provide special rooms or establish separate schools for the instruction of this class of children. Their removal from the regular classes, where they are misfits, where they gain little themselves, where they prevent other children from doing their best, and where they are a constant menace to the morals of the school, eliminates a serious hindrance to the work of the teacher. It is not the intent of the law that these schools should carry the stigma of a reform school or juvenile criminal institution, which may cling to a person for life; it is an attempt to reach peculiar cases in a manner suited to their peculiarities and thus save them to society.

CLASS C. **The Mentally Subnormal.** — Unlike the first two classes, Class C includes those who are below normal mentality. While the number of this class is relatively small, still, they are to be found in every school and nearly every classroom. They are a drag upon the progress of the class and add greatly to the problem of discipline. Experts estimate that nearly two per cent of the school children belong to this class. They also believe that most of the incorrigibles are also subnormal in mentality. The teacher is generally uncertain regarding this class, not being able to determine whether a backward child is dull, slow, physically unfit, lazy, or whether it is mentally deficient. Every teacher hesitates to pronounce a child feeble-minded, both on account of the child itself and on account of its friends. Therefore in doubtful cases expert opinion should be called.

External evidences of feeble-mindedness. — If an expert is not available the following description of mentally subnormal children by experts who have become famous will aid the teacher.[1] "Mentally subnormal children in the public schools exhibit certain common characteristics. The essential evidence of mental limitation is that the child is persistently unable to profit by the ordinary methods of instruction, as shown by lack of progress or failure of promotion through lack of capacity." In order to aid the teacher who lacks expert knowledge of this subject, and yet who must meet the situation in her own classroom, a summary of the suggestions made as to the characteristics of feeble-minded children in the pamphlet referred to may be of value.

The characteristics by which these children may be identified are as follows: (1) They do not possess and are unable to develop an extended vocabulary. (2) They lack the power of voluntary and continued attention. (3) They are easily fatigued and soon lose interest. (4) They are backward in such school work as requires judgment or reasoning, though they may excel in memory work. (5) They choose for their companions children younger than themselves. (6) They have weak will-power and are therefore easily led by their playmates, though they are often stubborn and subject to fits of bad temper. (7) Very often feeble-minded children can be picked out because

[1] See "The Treatment of Subnormal Children," a pamphlet issued by the New Jersey Department of Public Instruction. The description given is made by Supt. Johnstone and Dr. Goddard of the Vineland Training School.

of some physical peculiarity; this is shown by the slouching gait, the open mouth and drooping jaw, the inexpressive eyes, which are close together, the retracting forehead, the small chin, the vacant stare, and the foolish grin.

State Aid for Special Classes. — As a result of the New Jersey law much light has been thrown upon this subject and many school boards have established special classes for each of the three grades of children specified so that many of them are segregated from the regular pupils. The law provides a state appropriation of $500 for each teacher employed for special classes, thus encouraging and aiding the local board to make the provision. Such special classes are limited to from ten to fifteen pupils and teachers of peculiar fitness and preparation are sought. This has caused a demand for specially trained teachers which has been very difficult to fill.

The Vineland Summer School. — The school for feeble-minded at Vineland has again taken the lead by founding and maintaining until recently a summer school for the training of teachers to meet this demand, an example that has been followed elsewhere and is destined to receive a much greater response as public conscience awakens to the importance of the movement. Realizing the peculiar qualifications, natural and acquired, of this class of teachers, school boards are paying the expense of attending a special school and are offering increased salaries to young persons willing to devote themselves to this work. And these boards are the more willing to meet these conditions as they appreciate that the regular class work, as

already seen, is unsuited to these unfortunate children, doing them little good, and perhaps harm, while the normal children are hindered and retarded by the presence of the others. By such elimination the normal children may be afforded an opportunity for the employment of their full powers, while the sub-normal may be given the kind and amount of work suited to their mental and physical condition.

The Kind of Teacher Required for each Class. — It may be profitable to consider the qualifications that are desirable in teachers for each of these classes of children respectively. This may aid the teacher in making a decision with reference to engaging in this important work. For peculiar qualifications are necessary, and the teacher who lacks patience to deal with these unfortunates, who is wanting in sympathy for their weaknesses, who is unable to adapt herself to peculiar and individual cases, who does not possess a broad and humane understanding of the sad limitations of these children, should not undertake this work.

For the first class, those who are backward because of circumstances such as a lack of knowledge of the English tongue, irregularity in attendance, physical defect, etc., but who are mentally normal, the teacher should be mature and experienced, sympathetic in nature, and capable of discovering and meeting the difficulties of such children. For the second class, the incorrigibles, who must be removed to special schools, teachers should be physically strong and of vigorous personality. It has been found that boys belonging to this class are usually best reached through manual and industrial activities, therefore the teacher

should be equipped in these special fields. Manliness, firmness of character, and a complete understanding of the boy nature are absolutely essential.

For the third class, the mentally deficient, State Commissioner Kendall says, "It is desirable that she (the teacher) be a normal graduate, but this is not necessary if she has had some intelligent and successful experience. She will need a happy and optimistic temperament, and the great patience that comes from a large sympathy with slow and uncertain children. She should have an intellectual and social interest in the problem of the subnormal child. The teacher for this class should be able to give instruction in manual training. There should, however, be added to the qualifications of temperament, character, and experience, the special training of at least a six weeks' summer study of this class of children at Vineland or its equivalent. This minimum amount of study should be increased at intervals of not longer than three years, by other special courses of study." We have seen that many boards of education show their appreciation of these suggestions by holding out the inducement of larger salaries and by special allowance for the expense of attending such a summer training school.

The purpose here is not to indicate the methods to be employed in training either of these classes of backward children. That must be left to experts specially prepared to deal with such children in schools devoted to that work. I have endeavored to show how the regular class teacher may discover these children and determine to which class they belong. Having reached this conclusion, the teacher will be able

more intelligently to decide what can be done with them. Clearly, the last class, at least, should be segregated. Dr. Goddard has shown beyond question that feeble-minded persons are a danger to society, not alone because of their criminal tendency, but because their progeny are likely to be feeble-minded, thus forever perpetuating the peril. He has shown also that the feeble-minded are easily led and therefore readily become instruments of crime to those more intelligent and more vicious, that they possess little moral sense, and that through weakness of intellect they are unable to take care of themselves. Hence they should not be at large, either in the school or out of it, but should be sent to institutions where they will no longer be a peril to society. And this segregation should be carried out at least so soon as they reach the adolescent period when they are the greatest danger. The child that is congenitally feeble-minded can never become normal, and the only way to lessen the number of this unfortunate class is to prevent their propagation.

New Jersey is experimenting with a system of colonization of this class of persons upon the waste lands in the southern part of the state. The design is to protect them and society as well, make them happier than they could be at large, and, at the same time, utilize them for their own maintenance so far as their capacity permits. Thus may be solved the problem of expense involved in segregation.

The other two classes will have to be provided for largely in the regular schools, as it is impossible to provide separate institutions for them, however much this may be desired. If the teacher understands the

class to which the unusual child belongs, the first step has been gained and she will be able to deal with him more wisely. If he belongs to Class A, he must be cared for in the regular school, though in special classes. Infinite pains should be taken to overcome his backwardness. It often occurs that such pains are amply rewarded. I have in mind a German boy about sixteen years old who spoke English very brokenly. The other pupils were inclined to ridicule him whenever he attempted to recite. His queer English amused them greatly. One day he was slowly attempting to solve an example in arithmetic, and when the class began to laugh he sat down in confusion. Determining to put an end to the attitude of the class and give the boy a chance, I said to the class, "What is there to laugh at? If there is something to laugh at I would like to join you." The pupils who had taken their cue from a former teacher who made sport of "Dutchey" were thoroughly ashamed of themselves. I had great interest in the boy, knowing that he was doing chores for his board. Turning to him, I said, "John, can you do that example?" "I think I can, sir," he replied. "Very well, try again, and take all the time you need," I said. Thus encouraged, the boy correctly solved the problem, and I may add, John became the best student in mathematics in my school, and those who had ridiculed him were glad later to seek his aid.

Another case may be of interest in illustrating this point. A boy about twelve years of age entered school and came to me for grading. I found that he was sadly retarded in his education owing to irregular attendance, his father being something of a nomad,

so that the boy had been in many schools, and much of the time in none at all. "What do you know, my boy?" I asked. "Well, sir, I don't know much of anything," he replied. Upon examining him, I found that he spoke the truth. "In what grade do you think I should place you?" I further asked. "Put me in a low grade of course," was the answer. "You see I know nothing." I placed him where I thought he would get the most good and watched his case. In a week or two I advanced him a grade, and still later another grade until finally he found his place. He became the brightest boy in my school. Every teacher of experience has had similar cases. To deal with them requires patience, sympathy, common sense, and a willingness to adapt the work to their peculiar needs.

The Work of an Industrial School. — Some boys are incorrigible because the regular school work fails to appeal to them. There is no doubt that the introduction of normal and industrial training into our modern courses of study is the salvation of many boys. I visited the Boys' Industrial School at Newark, N. J., not long since, and was profoundly impressed with the enthusiasm and interest apparent. Many of the boys had been dismissed from other schools as incorrigibles, truants, and misfits. They were engaged in many forms of industrial work, such as printing, mechanical drawing, electrical installation, wood and iron work, etc. The boys were regular in attendance, obedient, thoroughly tractable, and eager to learn. They had found their sphere. A record of those who had completed their courses showed that almost

without exception they were making good in the various positions they occupied. Their employers spoke in highest terms of their efficiency and faithfulness. Thus the school is saving boys from probable lives of criminals, and making them useful citizens. It certainly is much cheaper for the municipality to support such schools and save the boys than it would be to let them become criminals and be obliged to provide jails for them. And instead of their being a dead loss to the community they add to its wealth and prosperity by becoming useful members of society.

Need of Flexible School Courses. — The time is coming when our courses of study will be made far more flexible. Some children are "born short" in certain directions, and to compel them to take the whole of a formal course of study is martyrdom to them and to their teachers. They are not defectives in the common acceptance of the term, they are capable of becoming useful men and women if only their aptitudes are discovered and considered. One has only to study the history of some of the world's greatest men in order to verify this statement. Emerson could not learn mathematics; General Grant had no comprehension of music; Henry Ward Beecher was not a brilliant student; Peter Cooper was dull in his ordinary school studies; and Sir Isaac Newton, James Watt, Charles Darwin, Sir Walter Scott, and many others, who have been the world's greatest benefactors, would have been called backward children had they been classified by the rigid requirements of a course of study.

The course of study should be flexible enough to meet peculiar cases, permitting the child to omit

without humiliation such things as are found to be outside of his capacity. By no means should a mere whim on the part of the child be allowed to control, nor should he be excused from studying a subject simply because he does not like it; it must be clearly demonstrated that he is "born short" in this particular. To do things that we do not like to do, to perform tasks, is sometimes the best of discipline. It gives stamina of character; it makes one sturdy and self-reliant; it prepares one, undaunted and undefeated, to rise again when overtaken by disaster and begin the fight anew; and it affords the supreme satisfaction that comes from conquering an opponent worthy of one's steel. Children love to undertake hard tasks. Therefore if we are to build up a strong, aggressive, independent manhood, we must train our pupils not to shrink from the difficult or unpleasant. But when it is clearly demonstrated that a child is wanting in capacity to learn a subject, the curriculum should be so flexible that the teacher may modify it to suit the individual case.

Concerning those who at some time in their lives would have been classed as backward children, Marden very forcibly says, "The world has been very kind to many who were once known as dunces or blockheads, after they have become very successful; but it was very cross to them while they were struggling through discouragement and misinterpretation." Every teacher has such dull children in her classes, and though they may not turn out to be Edisons or Darwins or Emersons, they may become useful men. I cannot better conclude this chapter than by quoting once

more from Marden. He says, "Give every boy and every girl a chance and reasonable encouragement, and do not condemn them because of even a large degree of stupidity; for many so-called good-for-nothing boys, blockheads, numskulls, and dullards, were only boys out of their places, round boys forced into square holes."

CHAPTER VI

THE MAINTENANCE OF ORDER

The Necessity of Order. — Whenever a number of persons are brought together in a body having a common purpose and seeking a common end, regulations to secure orderly action must be accepted. In all our relations in life we are subjected to regulations and we do not consider that our liberties are being infringed upon or our legitimate rights surrendered. Thus if we take a train we must conform to the time-table and submit to such rules as the railroad company has deemed necessary. If we wish to buy a ticket for a public entertainment, or draw money from the bank we must take our place in line and wait our turn. Even if we play a game we must follow the rules. No one thinks of objecting to these necessary restrictions. So too, in the class where 30 or 40 children are assembled, regulations become necessary which may not be needed in the home where there are but one or two children. One of the best reasons for sending a child to school, where he comes into contact with other children and where he must be subjected to regulations analogous to those that he must submit to in later life, is found here. In the school he learns the duties of citizenship, the importance of yielding selfish interests to the needs of many, the necessity of obedience

to law such as he is not likely to learn in the home under the direction of his parents or a tutor.

A young lady student was expelled from a normal school for violating an important rule. When asked by a friend as to the reason of her expulsion, she replied, "I left the boarding hall one evening and went out walking with a gentleman friend. I have done no wrong, I am in the habit of doing the same thing at home." "But," said her friend, "you were not at home, you were in a school, whose regulations you had promised to obey." "I do not see the sense of such a rule," she replied. "There surely is no harm in walking out with a decent young man. My parents allow me to do so at home. I can see no wrong in it." "Of course there is no harm in that under proper conditions," was the reply. "But this rule has been found necessary where so many girls are involved. If you may do it, certainly the four hundred other girls must have the same right. Suppose this were granted and a large number of them availed themselves of the privilege. How would an item in the newspapers like this appeal to the parents throughout the state? 'Late last night four hundred girls of the state normal school were seen on the streets walking with young men.' Would this add to the good name of the school? Parents would withdraw their daughters from the school at once." "I see the force of what you say. I have made a fool of myself," was the girl's answer. The whole trouble with this girl was that she failed to recognize the truth I am trying to impress, that where a number of persons are involved regulations are necessary. No reasonable regulation is

burdensome, nor does it arouse antagonism from the well-disposed, whether it be a rule for children in the school or a law of the land for adults.

Obedience to authority is natural and resistance to just authority is unnatural. The teacher should take advantage of this natural instinct of the child to submit to the wise direction and superior knowledge of those in authority. An enthusiastic young teacher was led into error by the false teachings of an institute lecturer who painted in bright colors a form of school discipline in which all friction was to be removed and the school made a paradise which he called a "miniature republic." Following the plan thus outlined the young principal spoke as follows to his pupils upon reopening school: "Boys and girls, we are going to change our whole scheme of government of the school. I am not going to govern any more, you are to govern yourselves. We are all on an absolute equality as becomes a republic. Whenever there is an offense against good order, we will take up the case, discuss it together, hear all sides, and then take a vote as to what shall be done. That vote shall be final as we are all equal citizens in this school. You have just as good a right to your opinion as I have to mine and shall have equal authority." Of course the proposition met with hearty approval and the experiment was inaugurated. For a few days everything went along smoothly. But after a little while when a case came up for trial the pupils began to take partisan sides whenever their friends were involved. Nothing suited them better than to spend the time of the school in unfruitful discussions, for thus they could escape

their legitimate work. The teacher was helpless for they were ready to quote, "You said that we are all equal, and therefore our opinion is as good as yours." The "miniature republic" rapidly merged into anarchy and good order disappeared. After trying the experiment for a few weeks, the teacher made another speech in which he said, "Our miniature republic is played out; I am the sole ruler of this school," and again there was peace and good order. The propositions of the lecturer were fallacious for the following reasons: 1. The pupils are not the teacher's equals in knowledge, age, experience, or authority. The teacher, by virtue of his license to teach and his appointment, alone is clothed with authority. 2. The pupils are wanting in stability and constancy of purpose essential to self-government. Primitive peoples are denied this right until by long training they are prepared for it. 3. The punishments meted out are apt to be unfair. They are too mild for favorites, too severe for enemies. Experience has taught that student councils are often severer in their discipline than the faculty would be, severer than justice or the necessity of the case demands. Hence, although the teacher may delegate certain duties to pupils and allow them some responsibility, the final word of authority and decision must rest with him.

And yet, I would not imply from the above discussion that the pupil should have little to do in governing himself. Indeed, the great purpose of school discipline is not merely to maintain order, however necessary that may be, but to train the child to that essential quality of American citizenship, *the power*

of self-government. He should gradually be led to this power, not only through his studies, but also by the very methods of discipline employed in the school, as I shall attempt later to show.

What is Good Order? — It is important that there should be a right idea of good order. I once visited a schoolroom in which pandemonium reigned. The teacher was constantly hammering his desk with a heavy ruler in order to make the children be quiet, thereby creating disorder himself. The children naturally were inattentive, mischievous, and disorderly. I visited another school that was in charge of a woman noted throughout that section as "a good disciplinarian." The children sat remarkably erect in their seats, studied with painful stillness, and marched with great precision to the front. Moving pictures could not have been more exact or automatic. There was not a spontaneous act in the whole proceeding. It would have been a relief if some boy had yelled, "You're it," or "Sis, boom, bah," anything to break the awful silence and precision. That was no more good order than in the former case, as any intelligent superintendent would know.

But to answer the question, "What is good order?" I would say that a school is well-ordered when everybody is busy at his work, when the pupils naturally and quietly go about the room without disturbing others, when they are attentive and interested in their duties, and when they are cheerfully obedient to the necessary regulations. It is true that good order sometimes requires absolute quiet, as when the teacher is speaking to them. Sometimes pupils must sit erect,

but certainly not at all times; sometimes they must march like soldiers, but not in all their movements; sometimes they may rest, but to be long idle is disorderly. The teacher must learn to distinguish between order and confusion: between the necessary noise of proper occupation and that which is disturbance; between legitimate activity and that which must be restrained; between innocent and vicious mischief. And the teacher who has learned these lessons will have little trouble in discipline, and surely will not be in danger of nervous prostration. She will go serenely on with her work, being alert when there is real danger, not indefinite in her requirements, firm and rigid when there is need of it, and yet, withal, breathing a spirit of gentleness and sympathy that will surely win the confidence and love of her pupils. Then the latter will perform their duties cheerfully and promptly, and the atmosphere of the schoolroom will be wholesome, inspiring, and natural. That is good order and the school that has attained it is Paradise.

Practical Suggestions. — In order to aid the teacher in securing these results, I should like to offer a few practical, commonplace, it may be, suggestions.

1. *Make as few rules as possible.* — Some rules will be necessary, as we have seen. Make a rule only when it becomes necessary after proper warning. Let it be clear and definite, and then carry out its provisions firmly and impartially. Do not anticipate an evil. Many a teacher has suggested mischief by making rules concerning matters that have not yet come up. In a young ladies' boarding-school it was found

that outbreaks were likely to come after the girls had been home for a holiday. Their mothers and aunts had bragged about their boarding-school escapades, and the girls returned to school with the ambition to surpass the feats of wickedness of the past generation; hence there was always an increase of mischief after a vacation. The unwise prattle of their elders had suggested evil.

2. *Keep control.*—I have already suggested that the teacher should acquire the habit of subconsciously distinguishing between order and confusion. The teacher that allows the incidents of the schoolroom to disturb her equanimity will soon meet with a nervous breakdown. Children are full of life and innocent mischief; few are inherently vicious. Most of the mischief of children is due to a superfluity of animal life and not to wicked intent. A wise teacher will find means to work off this overflowing vigor. She will have the children march, go through calisthenic exercises, send them into the open air for lively play, devise various means to let them work off steam. One teacher sent a boy overflowing with animal life to run around a block. He returned having worked off his surplus energy and there was no further trouble with him. When a teacher finds that the little flock are getting restless, there is no use in trying to go on with the regular work. It is time for something unusual, something to divert their minds, and the resourceful teacher will save the day by introducing unexpected features. She will save herself irritation and probable discomfiture. The teacher must always be in command of the situation. It is well to draw

in the reins once in a while merely for the sake of testing her control. So long as the pupils readily yield to necessary restraint there is safety. The fussy, nervous teacher is not calculated to preserve good order. The children will be affected by her temperament, and confusion will surely result, while the teacher herself will find her school duties burdensome and intolerable. The schoolroom should be a joyous and happy place, attractive alike to pupils and teacher, where every one is mutually interested. Such a school will not need much governing, it will largely govern itself. Nor is it a question of the age of the pupil. I once witnessed an example of organized mischief on the part of six-year old children in a Berlin school. The teacher was utterly helpless and confusion reigned. What those children needed was some vigorous and unusual exercise, but nothing of this kind was specified in the school regulations, and the teacher entirely lost control.

There will be some noise, as there always is when people are active. But noise is by no means necessarily disorder. As a boy I used to visit a neighboring grist-mill. The miller would fill his hopper with grain, set the stones grinding, and then go to sleep. When the grain was run out and the stones had nothing to grind, my friend would at once wake up. The noise made in grinding did not disturb him, because it was orderly noise; but that of the turning stones with nothing to grind aroused him because it was disorderly noise. So the teacher must learn subconsciously to distinguish between the proper noise of busy activity and that which means mischief and

disorder. The former will not disturb, because it is legitimate; the latter calls for action.

If the spirit that I have tried to portray prevails in the school, a large part of the irregularity and tardiness will disappear, for children will go to school because they love it and not because they are sent or because they fear the truant officer. There are many such schools at present, and this ideal is becoming more and more prevalent as teachers come to understand their great mission. A bullying manner, harsh methods of punishment, and brutal practices are wholly out of place in the control of children. Indeed, they defeat their purpose in that they arouse antagonism and cultivate stubbornness in the pupils. Therefore the milder and more humane methods of control that characterize modern school discipline are evidences of a better understanding of the child nature and signs of genuine progress.

The secret of control lies in the awakened interest. So long as the pupils are engaged in some interesting occupation, they will behave themselves. This is illustrated in the case of the boys described in the Newark Industrial School, and it will always be found true. Hence the teacher should be furnished with an abundance of material; there should be not only mere devices, but also a broad educational basis, with a fund of knowledge and experience upon which to draw. There is no stronger argument for a thoroughly educated teaching profession.

3. *Be positive and firm.*— While gentle and humane methods of control are advocated, this does not mean that the teacher should lack firmness and decision,

or that she should fail to exact strict obedience of her pupils. Such weakness would be fatal to good order. It may be remarked that children respect and love the teacher who holds them to strict account, rather than the teacher who is weak and vacillating and who seeks to win favor by ignoring their offenses. I have already shown that obedience is natural, and therefore failure to exact it will surely bring disrespect and want of confidence. The teacher must be straightforward and positive in her requirements, and must leave no doubt in the minds of her pupils of her determination to be obeyed. She must be sure of herself and confident of her ability to enforce her demands. Children are quick to note the absence of these qualities and are sure to take advantage of any weakness. The teacher should not be rash in reaching conclusions, but when convinced as to what is the right action, she should not shrink from carrying it out.

It may be that at the first, considerable time must be devoted to the matter of discipline before the pupils understand just what is expected of them. Such time is well spent if the lesson is so well learned that later there is little occasion for discipline. For it must not be forgotten that order in the schoolroom is a means to an end, and that is to make instruction possible.

Punishments.—So long as human nature is what it is, there is no escape from the employment of punishments for offenses committed. The attitude of the teacher in this matter should be different from that of the judge, who deals largely with mature and responsible beings.

The judge must punish for the sake of example to restrain others from committing a like offense, to avenge the law, to protect society. Hence the law provides penalties for each offense, merely giving the judge discretionary power under certain limitations. The school, on the other hand, is dealing with little people who are largely irresponsible, who do wrong without forethought, and who seldom have a vicious motive. Because of this no fixed penalties should be attached to school regulations, so that the teacher may treat each case on its individual merits. Nor should punishment of children be administered as a retribution or as an example for others. I wish to emphasize the thought that the child should be treated as a child, and therefore when punishment is necessary, it should be inflicted for his particular offense. Hence some children will receive a different punishment, and perhaps a severer one, for a given offense than others might receive for apparently the same offense. The teacher should not reason, "Charles did this wrong and I kept him after school, and now Mary has done the same thing and therefore she must remain after school." There may be mitigating circumstances in Mary's case, and whatever was suitable for Charles in order to bring him to a sense of his wrongdoing, might not be necessary for Mary.

Is there not danger of the teacher being accused of "showing partiality"? I think not. It is only when the teacher shows favoritism to a child because of family or social position, or for some cause external to the school, that such charge is likely to be made. There need be no fear of this criticism if the teacher

acts honestly and fearlessly on the merits of the needs of each child.

Herbert Spencer gives wise advice when he says that punishment should be the sequence of the offense. If the child does not behave on the playground, he must not go out with the others; if he annoys others in his seat, he must be isolated; if he quarrels with others on the way home, he must be detained till after the others are gone. The teacher will find abundant ways to carry out this principle.

Again, the amount of punishment must be considered. The young teacher is prone to be too severe. Her theory is, "He deserves so much punishment, and it is my duty to administer it." This is a mistaken idea. "What punishment is necessary to bring him to a sense of his wrong?" should be the determining gauge. A professor was annoyed by a student who continually lounged in his seat. Now he might have been justified in calling the young man sharply to account, thus humiliating him before the whole class. This would undoubtedly have aroused resentment and possible defiance. The teacher, however, quietly asked the young man to stop after class, and said to him: "Mr. G., you are to be a teacher. Would you allow your pupils to lounge in their seats as you do?" "Why, no, sir, I would not," was the reply. "Well, now, I think I do not need to say anything more, do I?" pursued the professor. "You will have no further trouble with me," was the hearty response. The evil was thus corrected and mutual good feeling maintained.

It is not the purpose here to give devices, but rather

to state principles, leaving it to the teacher to find the application for each individual case. In order to have these principles governing punishment clearly before the teacher, I shall repeat them in compact form.

1. *Let there be no fixed penalties for school offenses.*

2. *The punishment should be the sequence of the offense.*

3. *The least punishment that will secure the end is the right punishment.*

4. *Punishment should be individual rather than for the purpose of furnishing an example to others.*

With these principles in mind the teacher should be able to select the form of penalty necessary to meet each particular offense.

Kinds of Punishment. — In general, we may divide punishments into two kinds, improper and proper. Among the former may be mentioned scolding, nagging, anything of a cowardly nature, those punishments that are cruel, and those that are humiliating. The teacher has no right because of superior strength or authority to take advantage of the weakness of the children. "Why have I whipped you, my son?" asked a father of his boy. "Because you are the bigger," was the reply. Whatever degrades or humiliates, whatever causes a loss of self-respect, or awakens just resentment, or is unreasonable or cruel, should be absolutely prohibited. Pulling the hair or ears, striking upon the head, or any other form of punishment that is dangerous should never be practiced, even if corporal punishment is not forbidden. Indeed, the teacher that employs such punishments should not only be displaced, but should also be made to answer in a court of justice.

I shall attempt to show what punishments are proper as follows:

1. *Reproof.* — This is the most common form of punishment, and it is effective in a large proportion of school offenses. There are many forms of reproof, such as a look, an act, or a direct word. A teacher was placed in charge of a class that had become unruly and troublesome. The children came to school dirty, were careless in littering the floor and in the use of school materials, and were generally disorderly. The teacher walked down the aisles examining hands and faces, observing the condition of desks and floor, and scrutinizing the general situation. Not a word was said, but the children fully understood the rebuke and were thoroughly ashamed. Gradually they began to pick up papers and put their premises to rights. Each day the same silent scrutiny was carried on by the teacher, and each day more and more of the children came to school with clean faces, combed hair, and more tidy dress, until the evil was wholly corrected. A look was the only rebuke administered, and it was sufficient.

If the reproving word must be used, it should never be vindictive or sarcastic. There is no place for sarcasm with little children, if ever it has any place. It blisters and hardens the child nature and reacts upon the teacher herself. It makes the teacher sour, hard, unsympathetic, bitter, and such a person has no place in the schoolroom. Constant association with children ought to sweeten, purify, ennoble, and make gentle. When the word of reproof must be spoken, it should be clear and decisive, though kindly,

so that there will be no mistaking its meaning. Pains should be taken to show the pupil the nature and gravity of his offense. Often a wrong is done without the child comprehending its seriousness. Generally speaking, reproof should be administered privately. No one likes to be held up to public obloquy. Reproof before the whole class is likely to arouse defiance on the part of the culprit and awaken the sympathy of the class for him. Taken alone, he is without the support of his comrades, is not humiliated, and therefore may be reached and brought to acknowledge his wrong. While there are grave cases of wrongdoing that call for public rebuke, such cases are rare, and the teacher should always be reluctant to adopt such extreme measures.

2. *Deprivation of school privileges.* — Every teacher grants freedom of action to her pupils in certain matters depending upon environment, age, and other circumstances. Among these may be mentioned permission to move freely about the room, possibly to leave the room, to get a drink, to whisper, to seek assistance, etc. Withdrawal of any of the privileges would be a punishment. Here is afforded an excellent opportunity to carry out the principle already discussed, namely, the punishment should be the sequence of the offense.

3. *Deportment marks.* — This is often an effective form of punishment in that it affords an opportunity periodically to call to the attention of parents, in terms that they can appreciate, facts as to the child's conduct. If parents are intelligent and in sympathy with the school, the use of deportment marks is doubly

effective. Parents sometimes make the system even more successful by supplementary punishments. Some teachers average the deportment marks with the class standing, thus making them a determining factor in promotion. Such practice is at least questionable, for the deportment of children is often bad because they do not have sufficient suitable work to do. What folly, then, to keep back a child because of his deportment, when if he were placed in an advanced class, where he would be kept busy, his deportment would probably be better.

4. *Suspension and expulsion.* — I shall discuss these together, as the latter is merely the finality of the former. Suspension is made by the teacher and is temporary, while expulsion is made by the school board and is permanent. Well-behaved and decent children should not be required to associate with those that are indecent and vicious. It is the duty of the public school to protect all the children from all immoral influences, and parents must have confidence in its ability to do so. A bad, vicious boy, addicted to profane and vulgar language, can undo the work of years of patient and loving training on the part of the home. In most states the laws permit the suspension of children who cannot be controlled in the school. The teacher must take advantage of that right when children are insubordinate, incorrigible, or a danger to the morals of the other children. The unfortunate part of such action is that in many cases it merely turns the child upon the street to become even more vicious. Therefore the teacher should be reluctant to administer this punishment unless con-

vinced that the good of the pupils as a whole makes it necessary. The state compels school attendance on the one hand, and permits expulsion on the other hand. To be consistent the state should provide places to which suspended pupils can be removed, and not turn them loose upon the streets, which to many boys is no punishment.

A boy was suspended from school for gross indecency. After a few weeks his father came before the school board and asked that the boy be readmitted. He said, "My boy has no mother, my housekeeper cannot control him, and I must be at business all day. If he does not behave, whip him, but do not turn him on the street. That is no punishment for him." The boy was readmitted and within two days committed a like offense, only more indecent than the first. His teacher took him into a room by himself and said, "You are looking for another vacation, aren't you?" "Yes," replied the boy, "suspend me if you want to." The teacher took a strap to him, much to the boy's astonishment. It was most salutary and effected a perfect cure.

5. *Corporal punishment.* — In the old-time school there was abundant use of the rod and often brutality was practiced. This led to the enactment of laws in many cities and states prohibiting corporal punishment. There is no doubt that school punishments are more humane than formerly, and surely the order is better. One no longer hears of the big boys clubbing together to throw the schoolmaster out of the window. This is not owing altogether to the legal restrictions in using the rod, for the same result is manifest also

where there are no restrictions. Teachers are better trained, more intelligent, and therefore more liable to command the respect of pupils. Besides, school authorities are giving better support to the teachers in matters of discipline, and public sentiment condemns rowdyism in the school. The increase in the number of women teachers also has its effect, as boys, who would have little compunction in making trouble for a man, are instinctively too chivalrous to resist a woman. The decrease in the number of rural schools has had its effect. Not long ago from 60 to 80 pupils of all ages from 4 to 21 were crowded together in one room under one teacher. Now the older pupils are sent to the town school, and the number of children in the rural communities has greatly diminished. All of these things tend to make discipline easier, and the necessity for harsh methods has disappeared.

While it is true that such brutal practices have disappeared from the schools, every teacher knows that corporal punishment has not disappeared, even where it is forbidden. It may be well to define what we meant by this term. I quote from a former state superintendent of public schools, who interprets its meaning as follows: "Corporal punishment as defined in the school law is as follows: Corporal punishment is any form of punishment by means of which physical pain is inflicted. It includes the physical discomfort or weariness caused by any unusual and sustained posture, as well as the infliction of pain by the hand or by the use of a whip, rule, or rattan." Under this interpretation there are few teachers who do not resort to some form of corporal punishment. Not long ago

a boy was sent to a Brooklyn principal for discipline. The principal took hold of the boy's arm, and while the boy was receiving a gentle lecture from his principal, I noticed that he winced with pain from the squeezing his arm was getting, and yet, corporal punishment has been prohibited in that city for more than a quarter of a century.

There is no doubt that legal restrictions as to corporal punishment have led to evasions of the law and to the adoption of many forms of punishment that are more unnatural, unreasonable, and even less humane than the old type. Think of young children being subjected to bitter sarcasm, which blights and withers, to various forms of degradation, to violations of their self-respect, and to real cruelties. What parent would not prefer that his child should be subjected to a proper whipping than to such humiliating forms of punishment? This is no advocacy of a return to former brutal practices. I think that the teacher should be allowed the same right that the parent possesses under the law. For surely the teacher, by education, by experience in managing children, and by humane tendency, is as fully competent to meet this responsibility as the great majority of parents are.

While the use of the rod under rigid restrictions should be permitted, any teacher that cannot control her school without frequent resort to it had better resign. Its use should be exceedingly rare, and only for some such reason as that heretofore mentioned (page 107). For its abuse, I would have the teacher called to a rigid account. I am thoroughly convinced

that upon this basis there would be less corporal punishment in the schools than at present; discipline would be easier and more natural, as well as more humane; the teacher would not be constantly compelled to evade a law which it is impossible to carry out in spirit; and the children would learn the lesson of strict obedience to law which is so sadly lacking. I am pleading for less severity, less cruelty, less false practice in discipline, and more sympathy, more humanity, more real understanding of the child nature.

In conclusion, school discipline should be easy and natural, should be kept in the background, and should aim to bring the children to self-control and self-direction. And this ideal finds its fullest expression in that American citizenship which it is the duty of the school to train.

CHAPTER VII

THE ART OF QUESTIONING

THE method of instruction in the elementary school is largely that of question and answer. Text-books were formerly almost wholly based upon that idea. Thus geography began with the question, "What is geography?" Answer, "Geography is the description of the earth's surface." "Of what is the earth composed?" Answer, "The earth is composed of land and water," etc. This method required no particular skill on the part of the teacher, who merely read the questions out of the book, and saw to it that the answer given agreed with the one in the book. Mere ability to read on the part of the teacher and ability to memorize on the part of the children was all that was necessary.

I was once present at an exercise conducted by the principal of a normal school. He was "hearing" a class recite in civil government. From a list of members of the class, which he had in a little book, he called upon a student to stand. Then from a text-book he read a question which was answered verbatim from the book. After marking the result in his book he called up another student, read the next question, got his answer, and made a record as before. The exercise proceeded on this plan until the end. It required no pedagogical skill,— anyone that could read

could have conducted the exercise, — did not provoke a bit of discussion, awakened no interest, and was entirely devoid of educational stimulus. There was not a particle of teaching; it was purely perfunctory. It was merely "hearing" the lesson. Think of young people going out with their diploma as qualified teachers with the deadening influence of such an example from the highest official of their school.

The Text-book in the Recitation. — Owing to the general lack of pedagogical training among the great body of teachers in former times, doubtless the publishers best met the situation by text-books of the character described, for it must be said that publishers of school books are alert to meet the needs of the schools. It is natural that the commercial standpoint should dominate their activities; nevertheless, they have done a great deal to foster and further educational reform and progress. It is not so long ago that institute conductors and educational reformers began to advocate the exclusion of the text-book from the hands of the teacher during the recitation, at least that she should not be a slave to its question and answer plan. It was urged that the teacher should teach the *subject* rather than the *text-book;* that she should possess such a mastery of the subject to be taught that the questions should flow from her fullness of knowledge; that she should be so free in her questions that both teacher and pupils should forget the existence of the text-book. Such teaching makes the recitation a really live and interesting exercise rather than the mere hearing of the lesson. Teachers re-

garded this innovation with distrust, especially the older ones, who had comfortably rested upon the simple and easy plan of taking everything from the book as law and gospel, and expecting from their pupils nothing but what was found therein. Such a plan required little preparation or study, and stimulated no progress on the part of the teachers. The new method was the beginning of a tremendous educational awakening. It required teachers to be prepared, it made the subject interesting, it awakened the pupils, it stimulated thought in both teachers and pupils, it gave greater freedom, it recognized an educational science, and it crowded the text-book into the background.

Colonel Francis W. Parker was the foremost leader in this movement. In his speeches and writings he advocated the reform, and at Quincy, Mass., he demonstrated the practicability of his ideas. He attracted the attention of the teachers over all the land, and the "Quincy Methods" became celebrated. Critics questioned the success of his work when measured by ordinary school standards; but when the children of Quincy were subjected to the regular county examinations with the other schools, they passed from ten to forty per cent higher than the average of the county in the various subjects. Colonel Parker's work wonderfully stimulated educational progress throughout the United States, and his name will ever be held in grateful remembrance as one of the greatest educators that this country has produced.

In the earlier stages of the movement the text-book was abolished from many schools, but later a saner

view prevailed, in which the reconstructed text-book was accepted as a guide and an aid rather than as a master slavishly to be followed. The text-book in most school subjects clearly has a place in the school. It is the accumulated results of the experience of wise teachers; it furnishes a practical and sequential order of procedure; it saves the teacher a great deal of time by its accumulated facts; it represents the progress in educational affairs, so that the teachers of today may start where their predecessors leave off. They start "On the shoulders of the human race," as Rosenkranz puts it. The text-book is especially necessary for the large number of untrained teachers that we still have. It will always be used as a guide and helper to the teachers and as an aid to the pupils, but its use in the recitation should be limited.

The Socratic Method of Questioning. — The great Athenian philosopher and teacher gave to the world a method peculiarly his own and which bears his name. This method was dialectic; that is, it consisted of questions and answers with logical sequence. It is true that most of his questions could be answered by "Yes" and "No," but his questions stimulated thought and awakened interest; in short, they led by a skilful system of reasoning to the truth that the master had in mind from the first and was seeking to teach. They admitted of no guesswork, but required the keenest intellectual insight on the part of both Socrates and his hearers, who were compelled by the irresistible logic of the questions finally to an acknowledgment of the truth.

Some have falsely interpreted the Socratic Method

to mean any system of questioning which requires only monosyllabic answers. A college president boasted that his method was Socratic. The following illustrates his method. The subject was ethics, with the sophomore class. Question. "Mr. Jones, ethics has to do with man's relation to his fellowman, has it not?" Ans. "Yes, sir." Question. "Mr. Wilson, should a man respect the rights of his neighbor?" Ans. "Yes, sir." Question. "Mr. Johnson, is deception ever justifiable?" As this question admits of either answer, Mr. Johnson guesses "No," thinking that was the answer expected. "Correct; a lie is never justifiable," solemnly announces the president. And so the farce goes on, and if a student made a wrong answer the pained expression of his instructor led him quickly to change his answer, to the relief of both parties. A good guesser could hit the right answer half the time, perhaps more, and therefore it is easy to see that those students did very little study in the subject of ethics. If there had been real instruction, the students would have gotten something out of the study during the recitation, even if they did little studying. As it was, the time was utterly wasted. A quotation from Socrates himself will perhaps be the best illustration of his method.[1]

SOCRATES. "Consider then; does it not appear to you to have been rightly settled that we ought not to respect all the opinions of men, but some we should and others not? Nor yet the opinions of all men, but

[1] This selection is taken from "Crito, or the Duty of a Citizen." It is necessarily incomplete, but the purpose here is merely to illustrate the Socratic Method.

of some we should, and of others not? What say you? Is this not rightly resolved?"

CRITO. "It is."

SOCRATES. "Therefore, we should respect the good, but not the bad?"

CRITO. "Yes."

SOCRATES. "And are not the good those of the wise, and the bad those of the foolish?"

CRITO. "How can it be otherwise?"

SOCRATES. "Come, then; how again were the following points settled? Does a man who practices gymnastic exercises, and applies himself to them, pay attention to the praise and censure and opinion of everyone, or that of one man only who happens to be a physician or a teacher of the exercises?"

CRITO. "Of that one only."

SOCRATES. "He ought, therefore, to fear the censurers and covet the praises of that one, but not more of the multitude?"

CRITO. "Clearly."

SOCRATES. "He ought, therefore, so to practice and exercise himself, and to eat and drink, as seems fitting to the one who presides and knows, rather than to all others together?"

CRITO. "It is so."

SOCRATES. "Well, then, if he disobeys the one, and disregards his opinion and praise, but respects that of the multitude and of those who know nothing, will he not suffer some evil?"

CRITO. "How should he not?"

SOCRATES. "But what is this evil? Whither does it tend, and on what part of him that disobeys will it fall?"

CRITO. "Clearly on his body, for this it ruins."

SOCRATES. "You say well. The case is the same too, Crito, with all other things, not to go through them all. With respect, then, to things just and unjust, base and honorable, good and evil, about which we are now consulting, ought we to follow the opinion of the multitude, and to respect it, or that of one, if there is anyone who understands, whom we ought to reverence and respect rather than all others together? And if we do not obey him, shall we not corrupt and injure that part of ourselves which becomes better by justice, but is ruined by injustice? Or is this nothing?"

CRITO. "I agree with you, Socrates."

SOCRATES. "Come, then; if we destroy that which becomes better by what is wholesome, but is impaired by what is unwholesome, through being persuaded by those who do not understand, can we enjoy life when that is impaired? And this is the body we are speaking of, is it not?"

CRITO. "Yes."

SOCRATES. "Can we, then, enjoy life with a diseased and impaired body?"

CRITO. "By no means."

SOCRATES. "But can we enjoy life when that is impaired which injustice ruins, but justice benefits? Or do we think that to be of less value than the body, whatever part of us it may be, about which injustice and justice are concerned?"

CRITO. "By no means."

SOCRATES. "But of more value?"

CRITO. "Much more."

SOCRATES. "We must not, then, my excellent friend,

so much regard what the multitude will say of us, but what he will say who understands the just and the unjust; the one even truth itself. So that at first you did not set out with a right principle, when you laid it down that we ought to regard the opinion of the multitude with respect to things just and honorable and good, and their contraries. However, someone may say, are not the multitude able to put us to death?"

CRITO. "This, too, is clear, Socrates; anyone might say so."

SOCRATES. "You say truly. But, my admirable friend, this principle which we have just discussed appears to me to be the same as it was before. And consider this, moreover, whether it still holds good with us or not, that we are not to be anxious about living, but about living well."

CRITO. "It does hold good."

SOCRATES. "And does this hold good or not, that to live well and honorably and justly are the same thing?"

CRITO. "It does."

This example of Socratic teaching shows that while the answers are short, they indicate that the disciple has an intelligent conception of the lesson taught, and that he is gradually being led into a knowledge of the truth in the master's mind from the beginning. Thus to lead the pupil is the height of pedagogical skill in the art of questioning.

The Characteristics of Good Questions. — Sound questioning depends wholly upon three factors, — the teacher, the lesson, and the pupil, — and the wise teacher will

adapt the question to the needs of the children. In general, the question is used in the recitation to analyze the knowledge of the children into its elements in order to freshen its full meaning, to help the student to secure a clear understanding of rules and principles, to drill the student after new knowledge has been presented, and finally, to test his grasp of this new knowledge. A few rules for questioning may be suggested.

1. *The questions should be simple.* — The questions should be plain and clear, so that the pupil may understand exactly what is wanted. It is the instructor's business to put the questions in such a manner and in such language that the pupils do not have to puzzle over them. Their whole attention should be given to the truths or facts to be brought out. Every bit of attention or strength devoted to the solution of the puzzle involved in the obscure question is just so much attention and strength withdrawn from the main thing, which is the grasping of the knowledge that the teacher is seeking to impart.

Making the questions simple does not mean that they are devoid of thought. It simply means that they are to be brought down to the immediate comprehension of those to be taught. Simplicity does not necessarily mean foolishness or want of power. Some of the greatest men that have lived have been noted for the simplicity of their lives and of the language they used. To use obscure language is an evidence of obscure vision and a lack of mastery of the theme treated, whether in thought or in writing. The Great Teacher employed the simplest language, and by parable

and other happy illustrations He brought His sublime truths down to the understanding of His disciples and the multitudes who followed Him.

It is related that Helen Keller once took an examination in which the questions were written in a different system of characters for the blind than that to which she was accustomed. In a word, before she could begin to answer the questions she was obliged to cipher out the signs in order to understand what was required. It was almost as if one who knew only the English language were given a set of questions in some foreign tongue. Instead of giving her whole attention to the theme in which she was being examined, and for which alone she would be marked, she had to waste her time and strength in finding out what was wanted. It is worthy of note that this marvelous woman succeeded in passing the examination, but the fact remains that she was unfairly handicapped.

Whether it be in an examination or in a daily recitation, it is the duty of the teacher to put the questions so that they may be readily understood. Otherwise the teacher herself is lacking in pedagogical skill and is answerable for failures. Every teacher, therefore, should devote careful study to the art of framing questions which will be concise and clear, well within the comprehension of the pupils, and which will show a definite aim that she has had in mind from the first.

2. *The questions should be given in logical sequence.* — With a final end in view, the teacher should lead up step by step, from the simple to the complex, from the easy to the difficult, from the concrete to the abstract, from the particular to the general. I have

shown elsewhere that the goal to seek in teaching is the abstract notion. From the outset the teacher has a definite purpose in every recitation of which she never loses sight. That purpose will be best attained if the various steps are sequential. Every recitation should start at the point where in a previous lesson the pupils left off. Hence there should be a brief review of this previous lesson, in order to fix that and to prepare the pupils for the new material. The blacksmith heats the end of both pieces of steel that he wishes to weld into one piece. After both are heated to a molten state, he claps the ends together, and a few blows unite the two pieces into one. If both are not so heated, no amount of hammering will cause them to weld. So it is with teaching. The old must be heated up, as it were, and then the new may be bound to it. Call this by any name you will,— the apperceptive process, the association of ideas, or the logical procedure,— it is the vital and essential method and without it teaching cannot be successful.

Having recalled the old and brought it vividly to the front, the next step is to proceed to the new that is nearest related. The following may be taken as an example of sequential questioning. The theme is the battle of Trenton. By review, the discouraging condition of the American cause had been made clear. Washington's retreat across New Jersey had been described and the exultation of the British shown. Cornwallis had sent dispatches to England that the war was over. With the situation clearly understood by the class, the order of questioning might be as follows:—Question. "Where was the American army?"

Ans. "The American army was encamped on the Pennsylvania side of the Delaware, a few miles above Trenton." Question. "Where was the British army?" Ans. "The main body of the British army was at Princeton, and a detachment of their allies, the Hessians, was quartered at Trenton." Question. "What did Washington resolve upon?" Ans. "Washington decided to strike a blow at Trenton." Question. "What course did he pursue?" Ans. "He crossed the Delaware during the night of December 25, 1776, marched in two columns upon Trenton, and attacked the enemy in the early morning of the 26th." Question. "Who commanded the Hessians?" Ans. "Colonel Rall." Question. "What was the situation in Trenton?" Ans. "The Hessians, thinking themselves secure, had given themselves up to Christmas festivities." Question. "What was the result of the battle?" Ans. "The surprise was complete and a great victory was gained. Colonel Rall was killed and 1000 Hessians were taken prisoners." Question. "What was the effect of this victory upon the American cause?" Ans. "It revived the spirits of our patriots and proved to be the turning-point in the Revolution." Of course in the development of this lesson with children, many more questions than those above given must be asked. This, however, illustrates the sequential order of procedure.

3. *The questions should aim to discover the knowledge possessed.* — It is true that inability to answer questions will reveal to the teacher the ignorance of the pupils. But I take it that this is not the main purpose of questioning. "A fool can ask questions

that a wise man cannot answer" is a well-known saying. The teacher has in mind the facts that she desires her pupils to possess. She has previously assigned the lesson, given the necessary explanation of it, and made definitely clear just what is desired. She has especially indicated where the material is to be found in case research is expected. Too careful attention cannot be paid to this last point, especially with young children. Much time is wasted and many pupils flounder in their study because they do not know exactly what is wanted nor where to find it. Book and page should be specified, so that the attention can be wholly devoted to the study of the thing desired. With the preparation which such study should give, the teacher may then question the pupils upon the lesson. It is her duty to discover how attentive the pupils have been to the instruction she has given and how faithfully they have performed the task assigned. She may ask: "How much time have you spent on this lesson?", but that will be no final test of faithfulness or of intelligence in study. For a pupil may spend time dilly-dallying over the task without accomplishing anything. He should be taught to concentrate his efforts and get the lesson as soon as he can, provided he gets it thoroughly.

What the pupils know is the thing the teacher must find out by questioning. To attempt to discover what they do not know is too large a task for finite minds, for what we know is brought within very circumscribed limits, while what we do not know is boundless. Why attempt the impossible? Find out what the children know of the subject in hand, what is on the

borderland of their knowledge, what are the things of which perhaps they have caught only glimpses, but do not attempt to fathom the great universe which lies beyond their horizon. If the questioning is well done, the pupils will have the satisfaction of mastery gained over some things and will also be made eager to know the mysterious things that have been hinted at and of which they have caught interesting glimpses. Such an attitude on the part of the teacher will not discourage pupils who although they have done their best have yet failed. It will show them wherein they have come short and what they must do to win future victories.

I desire to emphasize this viewpoint, for it is vital to good teaching. The purpose of the recitation is not to see how many of the class you can find deficient in knowledge, but it is rather to build up, to strengthen, to fix, to give confidence, to add to the sum of the pupils' knowledge. To prove that the pupils do not know the lesson does not show good teaching. Thirty-two out of thirty-five juniors in a college class in algebra failed in an examination. There is no escaping one of two alternatives; either the teaching had been faulty or the questions were too hard. In either case the fault lay with the professor, for with good teaching and fair questions there could never have been so large a proportion of failures. The majority at least of any class should be able to do the work given them. If the teacher finds that most of her class cannot master the work, it is evident that there should be a change in the method employed, in the material offered, or a change of teachers.

4. *The question should demand a full answer in a complete sentence.* — Generally speaking, the teacher should require a complete statement in the answers of her pupils. This method requires thought, fixes the material, holds the attention, tends to establish the continuity of the theme, and prevents mere bookish answers. Besides this, it affords an excellent training in the use of language. An example of this method may be given as follows: Question. "Where is the Hudson River?" Ans. "The Hudson River is in the eastern part of New York State." Question. "Into what bay does it flow?" Ans. "It flows into New York Bay." Question. "What great city is located at its mouth?" Ans. "New York City is located at its mouth." Question. "Why should a great city grow up at this point?" Ans. "A great city would develop because of the splendid bay at the mouth, the Hudson on the one side, and the East River on the other." Of course in drawing out the last answer, the teacher has discussed the importance of water communication in the locality of cities, the Erie Canal and Hudson River opening up the great West directly to New York, and the connection of the East River with Long Island Sound and the East, etc. This is a part of the teaching of geography. I am not outlining a scheme of teaching geography, but rather illustrating a method of questioning.

While in general full statements should be required of the children, there are times when this becomes stilted and perfunctory. In rapid work, as in reviews, brief answers may be accepted. The art requires good judgment on the part of the teacher, common sense,

and the ability to vary the method so as to keep up the interest. In general full statements should be required, but this should not always be strictly adhered to.

5. *The questions lead to new knowledge.* — While the first purpose, as we have just seen, is to find out what the pupils know, the recitation that does no more than that is faulty. By skilful questioning the teacher will bring up new knowledge. Teaching involves both testing the acquirement of old knowledge and instructing in the new. There is no doubt that the mere questioning of the class has a measure of instruction in it, for the pupils learn through hearing others recite, and the very act of reciting deepens and clarifies the knowledge of the pupil himself. Children learn a great deal from one another, not only in their sports, but also in the schoolroom. The eager and wise student is most alert and gives his most concentrated attention to his studies during the recitation. If he is keenly attentive to whatever the instructor presents, he ought to gain such a mastery of the subject in hand that his outside study will consist largely in clarifying, verifying, extending, and fixing what the classroom has offered him. I can give no stronger advice to the student than this: *Give your best effort to the work offered in the classroom.*

German teachers possess wonderful skill in the art of questioning, since great stress is laid upon this pedagogical feature in their normal school training. They present a theme to the pupils and then question in all the details, so that when the period of instruction is over the pupils have practically mastered the lesson. As a consequence but little home-study is

required or necessary. The pupils have no alternate periods of study and recitation, as is common in American schools, nor do they have much home-work. "How much home-work do you expect of your pupils?" was asked of a German teacher of an elementary school. "Not more than fifteen minutes a day for the little folks and not over an hour for the higher classes," was the reply. From our standpoint it was a mystery how the children learned their lessons. I discovered the answer to be simple enough after visiting many German schools. *They learn through the instructor, by means of the remarkable manner of questioning.* Old knowledge is sifted, clarified, and fixed, while new and related knowledge is added to it. I have shown elsewhere (pages 20, 140) that this plan has its drawbacks in that possibly it makes the child too dependent upon the teacher, too little inclined to help himself, and fails to give him the desire and ability to go on with his education after he leaves school. But it is certainly very effective in accomplishing what it sets out to do, namely, to give a complete mastery of the subject which the teacher presents.

The ideal will be reached when, by whatever method employed, we have inspired the pupil with *a desire for further knowledge and taught him how and where to find it.* When this ideal has been reached in a boy's education, we have done our best for him. His education will be well begun, and when he leaves school he will be able to continue it wherever he may be and whatever may be his condition in life.

6. *The questions should be of such a nature as to provoke thought.* — Possibly this idea has been brought

out in former discussions. It is so important, however, that a further consideration may be advisable. We have seen that "Yes" and "No" answers may be mere guesswork and furnish no evidence of thought. The whole purpose of teaching is to lead pupils to think, and the recitation that has failed to stimulate the thought activity may be considered seriously defective. In the recitation in history described on page 138, we find a simple memory exercise with no arousing of thought concerning the past events of the world and their relation to the life of man. Hence, as an example of teaching it was a failure. No subject offers better material to set the pupils thinking than history. The study of the causes of great events, of their effects upon the progress of the race, and of the results that follow, calls for thought. Unless thought is stimulated, there is little use in studying history.

After all, it is *the power to think* that prepares men to meet emergencies, that advances one man over another in any field of life, that solves difficult problems, that insures success, that makes men great.

Every exercise in the school should stimulate thinking. The teacher that awakens interest in things so that they are talked about among the children and in the home, that sets the pupils searching libraries, observing and investigating the phenomena of nature, in a word, that arouses the mental powers,—such a teacher has discovered the vital principle of success in her calling. Thus the art of questioning becomes the most important acquisition in the teaching of children.

CHAPTER VIII

GENERAL METHODS OF TEACHING

Progress in Methods. — There is a disposition on the part of young teachers to perpetuate the methods by which they were taught in childhood. Even a course in a normal school which teaches the latest and standard methods often fails to eliminate this tendency. "Did you learn these methods in the normal school?" was asked of a recent graduate by the county superintendent upon his first visit. "No," was the reply; "that is the way I was taught as a child." Now it does not follow that old methods are always wrong, or that new methods are always right. There are many thoughtful persons, and educators among them, who seriously question many modern methods and who are by no means prepared to discard all that is old. But the study of psychology in recent years and its application to education is beginning to furnish a sound basis for teaching and to establish educational practice. The old-time school undertook but little, but what it attempted to do was done thoroughly. *Drill, drill, drill* was the watchword of the old schoolmaster, a watchword that has all too much fallen out of the vocabulary of the modern teacher. To learn a few things well is infinitely better than to get a smattering of many things.

But there has been great progress in educational

method. In 1843, Horace Mann, then Secretary of the Massachusetts Board of Education, went to Europe, where he studied the schools of England, France, Switzerland, and Germany. He was especially impressed with the methods employed in the schools of Prussia. Upon his return to America he published his celebrated Seventh Annual Report, which has become an educational classic. He attacked in this memorable report in a very forcible way the teaching of reading by the A B C method. He showed that this method had been abolished in Germany more than twenty years before and strongly advocated the word method in its stead. Mann's report was vigorously attacked by teachers everywhere, and especially by the thirty-one masters of the Boston schools. "They thought that old-fashioned spelling was right and should be continued; that the only method by which children could be taught to read was the old-fashioned A B C method." Modern psychology has forever settled this question. The child can see and grasp the whole word, which carries an idea with it, sooner than he can grasp a letter, which alone does not stand for an idea. Probably these virulent attacks embittered Mr. Mann and influenced his withdrawal from public school service. Colonel Parker, in speaking of the work of these critics, says, "They were so far successful that the great reforms urged by Mann were kept out of the schools of Massachusetts, and, to a great extent, out of the schools of the whole country, for over fifty years."

The schools of Switzerland and Germany that Mr. Mann visited were feeling the impulse of the great

Pestalozzian movement, and the introduction of the reforms instituted by Pestalozzi was the first serious attempt ever made in this country to make teaching systematic. Horace Mann was greatly aided by the normal school movement which had just started in New England, and which spread over the whole country. The establishment of a normal school is a recognition of the necessity for trained teachers, which, in turn, implies scientific method.

1. *The Oswego Normal School.* — The early normal schools, however, were compelled to devote most of their time to academic work, as the students who came to them were wanting in fundamental knowledge. They had to be taught reading, arithmetic, geography, history, etc., before any attempt at professional training could be undertaken. Oswego Normal School was the first to lay stress upon "method teaching," it having brought to its faculty Hermann Krüsi, whose father had been a colaborer with Pestalozzi himself. Pestalozzian methods attracted wide attention to Oswego, and her graduates were in great demand as exponents of the new ideas.

2. *The Quincy methods.* — The next great movement to improve methods of teaching was that inaugurated by Colonel Francis W. Parker at Quincy, Mass. This movement drew visitors from all parts of the country in great numbers, was discussed in educational papers and at teachers' meetings, and created a deep impression. It is probable that the Quincy movement did more to advance primary education in this country than any other influence that has been exerted since public schools were founded. Indeed no other move-

ment since the time of Horace Mann has exerted so great, so permanent, and so salutary an influence upon American education. Colonel Parker, like Horace Mann, had spent some time in studying German education. Both men possessed an open mind ready to receive, absorb, and adopt any means of an educational advance, wherever found.

3. *The Herbartian movement.* — At the close of the nineteenth century a fourth movement, the Herbartian, also of German inspiration, was started. This was inaugurated in 1892, when a body of men who had recently studied pedagogy in the German universities, met and launched the movement by founding the Herbart Society for the study of education, and by publishing a translation of Karl Lange's "Apperception." To the Herbartians we owe an interpretation of the meaning of apperception, a better correlation of the subjects of the curriculum, greater emphasis upon the moral aim of education, and the bringing of the study of the problems of education to a scientific basis. Another important feature of the work of this society, however, has been its discussions in the field of methodology.[1] All these movements have tended to place educational practice on a more scientific basis.

What is Method? — Method may be defined as *the selection of proper material and the adaptation of it to the needs of the pupil.* Method is certainly something more than mere manner of doing, though Pestalozzi says, "Only have a proper method, and you will be

[1] See the works of De Garmo, the McMurrys, and others of this school.

surprised at the amount children learn in a single day." And Diesterweg adds, "The typical power of the teacher lies in his method." But back of this, preceding the presentation, there must be a wise choice as to what subject-matter is to be learned. No skilful manipulation, no pleasing manner, no happy gift of presentation, no mere power of interesting children, however essential all these may be, can be a substitute for lack of knowledge of subject-matter. No genius in the art of teaching will suffice if there is ignorance in regard to the material that is suited to the wants of the child. Hence the teacher must not only know how the child mind is developed, but also must be grounded herself in the fundamentals. She must be able to eliminate the unsuited, even though it may be offered in the text-book. Method work in the teachers' training school does not consist in giving typical lessons which the students are blindly to imitate, but rather it consists in teaching them to estimate the needs and capacities of the child and how to suit the material to those needs.

The Teacher's Personality. — The personality of the teacher has much to do with his method, and he who tries to teach like a Socrates, a Pestalozzi, a Mark Hopkins, or any other instructor whom he may admire, is likely to fail. A great teacher may suggest an idea as to method and therefore be worthy of study, but in the final analysis, no one can reach highest success in teaching unless he exemplifies his own personality. The wise superintendent recognizes this and therefore does not dictate to his teachers as to their method unless the method employed is mani-

festly unsound and unpedagogical. He lets each one work out his own salvation and is satisfied if proper results are secured.

The Essentials of Method. — There are three things essential to a good method: namely, (1) *A knowledge of subject-matter;* (2) *A knowledge of how the mind develops;* and (3) *A knowledge of how to present the material.* The child must be consciously present. No matter how well articulated and logical the method, no matter how enthusiastic the teacher may be, there can be no instruction unless the child is interested. And the subject-matter chosen is very important in securing this interest. Rosenkranz wisely remarks, "But the subject must be adapted to the consciousness of the pupil, and here the order of procedure and exposition depend upon the stage which he has reached intellectually, for the special manner of instruction must be conditioned by this. If he is in the stage of sense-perception, we must use the illustrative method; if in the stage of image-conception, that of combination; and if in the stage of thinking, that of demonstration. The first exhibits the object directly, or some representation of it; the second considers it according to the different possibilities which exist in it, and turns it around on all sides (and examines its relation to other things); the third demonstrates the necessity of the relations in which it stands either with itself or with others. This is the natural order from the standpoint of the developing intelligence: first, the object is presented to the perception; then combination with other things shows its different phases; and, finally, the thinking activity circum-

scribes the restlessly moving reflection by the idea of necessity."

The best method serves its purpose only through a capable person who carries it out with intelligence and zeal. A model teacher without a well-digested method is inconceivable. Without personality method is but cold formality. It must be warmed by the enthusiasm of a living teacher. Method must not be a formal process by which the teacher measures every act. This makes method the master rather than the servant and guide. Imbued with educational theory, possessed of sufficient general knowledge, acquainted with the laws of mental development, the teacher will not go astray, but will be able to adapt her method to changing conditions and to individual pupils. The teacher is free only when she is no longer obliged to measure every act by fixed formulas, when she is not bound by some stereotyped method, but, when inspired by the underlying principles of teaching, she meets each situation as it arises and brings to her pupils the right material in the right way.

Different Methods of Instruction. — To bring the subject to a direct and practical basis let us consider various methods.

1. *Oral work.*— With little children the method of approach will be almost wholly oral. Children love to listen and to talk themselves. Hence there must be constant interchange of ideas by means of questions and answers, by stories, and by conversation. If children are not allowed to take a large part in every exercise, their interest will wane. Many things can be learned in no other way, and the application of this

truth is especially necessary with young children. The child learns to write by writing, to speak by speaking, to read by reading, to construct by working with his hands, to think by thinking. Hence it is obvious that children must be active participants in the recitation or it will be a failure. Every teacher should frequently ask herself, "Have I done too much talking?" It is so much easier to get over work by telling the children rather than to develop the lesson by skilful questioning. What would one think of a master mechanic lecturing to his apprentice concerning a trade instead of putting tools into his hands and setting him at work? Children must be given opportunity to employ the knowledge they already have and skilfully led from the field of the known into the unknown.

A caution may be given at this point. If allowed to do so, children who are fond of talking will roam over all creation. They must be held to the subject in hand just as the teacher must "stick to the text." Then, too, there must be frequent repetition and review. One of the advantages of the old-fashioned school was its thoroughness, attained through many repetitions. While there was waste in this practice, nevertheless many important lessons were so well learned that they were never forgotten in later life. It is to be feared that the modern graded school has gone to the opposite extreme, and that therefore, without sufficient repetition, much of its work is forgotten. The curriculum marks off a certain part of work which must be completed in a given time. Each teacher naturally attends to the phase of work specified for her grade. And so the pupil is pushed on

from teacher to teacher and from grade to grade. Unless there be a wise and watchful principal to guide the work, there will be lack of continuity and thoroughness. There should be frequent reviews, reaching back over previous work, repeating sufficiently to fix the subject-matter and unite it into one complete whole. With older children oral work trains them to speak while on their feet, to use good language, and to think connectedly.

2. *Written work.* — As the children advance, there are many subjects that can be presented topically. While the oral method will be continued, the pupils must be trained to take a topic and treat it in its completeness. This can best be done in writing, although the training in connected oral expression must not be neglected. Some subjects, such as history, geography, nature study, and language work lend themselves to topical treatment more than others. There are but few persons in this country, of whatever rank, who are not called upon at some time in life to make a speech. We are a nation of public speakers, and this fact applies to those in social, business, political, and religious life. To express one's self in writing or orally is a necessary accomplishment and a part of one's education. The public school must not lose sight of this requirement in training the children for life. Topical discussions lend themselves peculiarly to this end. They teach clearness of thought, logical presentation, good diction, and therefore conscious mastery. They train a pupil to think out a subject in all its bearings. They teach the pupil to discriminate between the essential and the non-essential, and furnish the teacher an

opportunity to criticise both thought and language. While this work will be both oral and written, the latter has a wide scope in topical treatment, since the whole class can work simultaneously, since more careful thought and expression may be demanded, and because the pupils can be held to stricter account. Thus the pupil is trained to express himself in his own language and can be detected if his work is a mere memory exercise.

Teachers often have a false notion as to what really constitutes a topical treatment. I once witnessed a lesson in history supposed to be conducted by the topical method. The teacher opened his text-book and said to the first pupil, "You may begin." The pupil arose and recited the first paragraph word for word. "Correct," said the teacher, "excepting that you omitted the word *and*." He then called upon the next pupil to recite the following paragraph. The pupil arose and said, "I cannot remember how the verse begins." The teacher started him on the way with the first few words and he was able to glide through the "verse" and was marked ten. Not a word of criticism was made excepting such as was purely mechanical, nothing was said about the real meaning of the lesson, no attempt was made to connect the facts of history or to show how they had anything to do with the life of man. It was a "recitation" pure and simple, and there was not a particle of teaching in the whole lesson. It was simply a memory exercise, and of course was not a topical treatment. The topical method calls for independent thinking, for the expression of one's knowledge clearly and connectedly, for ability to con-

sider the theme as a whole, for complete mastery of the thought. It admits of no guessing, such as is possible in some forms of questioning and answering. For these reasons, so soon as pupils are able to write connectedly, topical themes in tests and examinations are fairer and more satisfactory. Topical work, therefore, should be both oral and written; oral, because it trains the pupil to think and express himself connectedly on his feet, and written, because it develops the power to gain a complete mastery of a subject and furnishes an opportunity to show it.

3. *The lecture method.* — German teachers employ the lecture method, not only in the university but also in the elementary school, much more than is common with us. Text-books are very few, as I have already shown. The teacher tells his pupils what he desires them to know and then questions upon what he has told them. For example, I witnessed a lesson in history in which the battle of Jena was the theme. The teacher told the story of Napoleon's march into Germany and Frederick William III's advance to meet him on the heights above the old university town. He described the alignment of troops, the attack, the overwhelming defeat of the Prussian forces, the retreat, and the final consequences to the unhappy people. With maps he showed the positions of the opposing forces and called attention to the genius of Napoleon in selecting an advantageous position and in directing the battle. It was a masterly, scientific, and complete analysis of this crucial battle. The teacher was thoroughly acquainted with his subject. After completing the account, the teacher questioned his pupils upon the

points he had touched. The interest was intense, for the portrayal had been vivid, and it was remarkable how well the children had mastered the lesson. History lends itself to this method of instruction, and the battle of Jena is a peculiarly striking theme to illustrate this fact. But a similar plan is followed with all other subjects. Little home-work is required or is necessary, as the pupils learn the subject through the teaching of it, as we have seen.

American teachers make comparatively little use of the lecture method in the elementary school, depending more upon text-books. In determining which of these practices is the better, it must be admitted that the German child, after eight years' schooling, is possessed of many more facts and has a more thorough knowledge of subject-matter than the American child of the same age. This is due in part to the method of instruction employed, and in part to the superiority of the teaching force, as all German teachers are professionally trained, while only a small part of the American teachers are so trained. More facts can be imparted, and in a shorter time, by the lecture method than by any other. For this reason teachers are often tempted to tell the pupils rather than to lead them to find out for themselves.

Admitting that the German child of fourteen has more knowledge than the American child of the same age, we may ask, Does he have more power? Can he use that knowledge better? Is he better fitted to cope with life's problems? Is he more likely to continue to advance in knowledge? In answering these vital questions, I would say that unquestionably

the American child has the advantage. "Will your boys go on with their educational growth after they leave school?" I once asked a Berlin principal. His unhesitating answer was, "No." "Why not?" I asked. "It is a question of bread and butter with them. They must go to work as soon as they leave school and will have no time for further study," was his reply. "Do you think that is the whole reason?" I pursued. "Well, what do you think?" he finally asked. I replied that by the German method of instruction the child comes to rely wholly upon his teacher for information. He is not taught to investigate and find out things for himself. He does not know how to go to books for information. After he has left school and no longer has his source of information, his teacher, at hand, he ceases to gain knowledge, and indeed goes backward intellectually. My friend admitted the force of the argument. The German school system is seeking to meet this obvious defect by establishing continuation schools to follow the eight-year course, in which the children are offered an opportunity to supplement and extend their previous work.

The American common school seeks not only to give the child knowledge, but also power. It seeks to put him in the way to help himself after he leaves school, by giving him the desire to use and to extend the knowledge he has gained. If the school succeeds in creating a love for knowledge and a desire for its acquisition, it does more for the child than if it fills him with the facts of history, science, mathematics, or stuffs him with literature and art, and yet fails to give him the power of intelligent self-direction and initiation.

While the lecture method is unsuited to the elementary grades, in the high school it may be properly employed in some subjects, and in the college and university it becomes the principal method of instruction. In these institutions the learners have gained the power of self-direction, and the advantages of this method may properly be utilized. These advantages may be summarized as follows: (1) Knowledge can be imparted more rapidly, as has already been shown. (2) The teacher can take the students into fields that may not be treated in text-books. (3) He may select his material to suit his own ideals. (4) It offers opportunity for original investigation. (5) It allows concentration upon a limited field when desired. (6) It permits the teacher to become a specialist. Students seek universities, especially in England, France, and Germany, where great specialists are found who lecture upon themes that mark the advance of the world's thought and learning.

4. *The inductive method.*[1] — There are two general methods of approach to knowledge, the inductive and the deductive. It is to Francis Bacon that we are indebted for the inductive method, though Macaulay gives little credit to Bacon for this discovery, inasmuch as this method "has been practiced ever since the beginning of the world by every human being," nor was he the "first person who correctly analyzed that method and explained its uses," as Aristotle had done so long before. It would be unjust to withhold from Bacon the credit for a great discovery on these grounds,

[1] See Smith's "Systematic Methodology" for a complete treatment of the inductive and other methods.

for this reasoning would exclude Franklin and Harvey and Pasteur and Edison from credit as discoverers. The discovery of the inductive method has changed methods of teaching and is of inestimable value to mankind. De Garmo says,[1] "What Francis Bacon called the new method is in sharp contrast to the old method of the middle ages, when men were concerned not so much in establishing principles as they were in drawing conclusions from admitted premises. The difficulty of using the old method as one of research was that it assumed or accepted from authority the principles from which it reasoned, whereas the great need of the new natural sciences was that all these old principles should be verified, and that new ones should be established through inductive research by means of observation, experiment, hypothesis, and analogy. Bacon very properly rejected the old deductive method as utterly impotent and barren in the new field."

The watchwords of this method are *experiment*, *investigate*, *verify*. And the promulgation of these ideas has led to the establishment of laboratories in schools of all kinds and in many factories. It has also instigated the founding and endowment of institutions for research, which are already yielding remarkable fruits for the alleviation of suffering and for the benefit of the human race.

The inductive method starts with individual things, and by comparison, noticing likenesses and differences, arrives at general notions. "The immediate purpose of induction," remarks De Garmo, "is of course the derivation of a rule or principle, the establishment of

[1] "Principles of Secondary Education." Vol. II, p. 76.

a class, or the discovery of a cause or effect. In other words, the goal of an inductive is a generalization, a classification, or a causal relation." An an illustration, take the study of arithmetic. Formerly the teacher's direction to a class was, "Learn the definitions and rules and then see if you can work the examples." The inductive process would require the examples to be worked first and finally the rule to be evolved. The teacher should first give simple problems, then harder ones, until the pupils are familiar with the process. Then they should be required to tell in their own language how they worked the problems, and finally they should commit to memory the rule as a formal addition to their sum of knowledge.

If approached in this way by the inductive process, the rule will be comprehended, whereas it would be meaningless if learned at the outset. This last step is important, as it fixes the principles in the minds of the children and gives them norms or formulas correctly stated, which will serve as fundamental guides in accurate thinking and in practical life.

5. *The deductive method.* — This method starts out with generalizations,— laws, principles, rules, definitions, and proceeds to the individual application. Thus, committing rules in arithmetic as preliminary to solving problems, learning definitions in geography or grammar and applying them later, studying botany out of the text-book rather than in the fields at first hand, taking statements from a book on physiology instead of considering the human body itself, are examples of the deductive method.

Some subjects can best be approached by the induc-

tive and some by the deductive method. The wise teacher will adapt herself to each child and each subject, sometimes employing one method and sometimes another. In general, with young children the method is to advance from the concrete to the abstract, from the simple to the complex, from the individual to the general. With older pupils there may be a wider employment of generalizations. It may be remarked that the presentation of a subject by a variety of methods tends to deepen and fix the lesson in the minds of the children. The peculiarities of individual pupils, the personality of the teacher, and the characteristics of the subject itself must all be taken into account.

In conclusion, let me say the teacher must not be a slave to method. She should have the subject-matter so thoroughly in hand, should be so filled with the inspiration of teaching, should so understand the child mind and its development, that method becomes an unconscious instrument by means of which she presents the truth naturally, logically, forcefully, and completely, so as to leave deep and lasting impressions.

CHAPTER IX

AIMS AND METHODS IN READING

It is not the intention here to give an exhaustive treatment of the methods to be employed in teaching the subjects of the elementary school. For such treatment the reader is referred to special works on these subjects.[1] I shall attempt to point out the *aim* to be sought in each subject and to add some practical suggestions as to *method*. The purpose is to give assistance to the young teacher, who, perhaps, has had but little preparation for teaching and not much experience, is possessed of but few books to guide her, has no one at hand to counsel her, and yet is eagerly seeking light upon the great problems of the schoolroom. Therefore I shall take up the various subjects of the elementary course and throw light upon the manner of teaching them.

Aims in Reading. — The most important subject of the school course is reading. It is the first subject taught in point of time, and the child's progress in this is the best and most manifest sign of his advancement to both teacher and parents. It is the key to educational success, and it opens the door to future knowledge. It is essential, not only to school progress,

[1] McMurry has a series of books on "Special Methods" in each of the common school branches. See also his "General Method," De Garmo's "Essentials of Method," and Smith's "Systematic Methodology."

but also to future self-improvement. It is the most fertile means of gaining knowledge of the world's activities, and the past and present are recalled to the mind of the eager student through its means. He who cannot read is excluded from the enjoyment of literature, history, science, and the current events of the world revealed through the medium of newspapers, magazines, and books. Nothing in the school course is of such utility and furnishes such lasting means of enjoyment as reading. It must therefore naturally come first in the school in point of time.

The two-fold purpose that the teacher must have in mind in teaching reading is to give the children a knowledge of the *form* of the words and of their *content*, or the ideas that they express. Under form we include correct articulation and pronunciation, proper inflection, and emphasis. The child must learn to pronounce the word at sight correctly and with clear articulation. He must know the word as a whole at a glance and without the necessity of spelling it out. The grasping of the meaning of the word must accompany the recognition of its form. Whether the form or the content of the word is first grasped is a disputed point. In most cases they are comprehended practically simultaneously. The child has mastered form only when he has acquired a natural, fluent, clear, and accurate pronunciation. The test of this will be found in the rendering of the sentence as a whole, with proper inflections and emphasis, so as to make the thought clear to the hearer. Natural and pleasant expression can be obtained only when the child himself comprehends the thought, which he in turn gives to others

in the form of reading. The teacher must take great pains to secure accuracy in producing every sound. Many teachers devote a great deal of time to phonic drill, which produces excellent results.

While the mechanical difficulties are being overcome, the content, or thought side of reading, by far the more important feature, is also receiving due attention. There is little value in the mere calling of words without understanding. If the child catches the thought, reading becomes a form of "telling," and he will tell the story naturally and with good expression. Thus will disappear the painful droning so common under the old methods. In order to furnish plenty of thought material and to keep children interested in what they read, there are numerous supplementary reading books, in addition to the regular text-books, which are suitable for the different grades, and the purpose of which is to give practice in reading and at the same time to store the mind with new ideas. The old method called for constant and painful repetition of the same pieces, and consequently interest soon waned. Publishers have placed many of the finest gems of literature in suitable form and within reasonable cost, so that they are available for the ordinary classroom. Thus, while the child is learning to read, he is also storing his mind with the rich treasures of his mother tongue and beginning to acquire a good taste. Herein lies a great opportunity for the teacher. It is as easy to form good habits in reading as it is to form bad ones; to create a taste for the pure and noble as to create a taste for the vile. And the teacher, fortunately, lives in an age when suitable material is abundant. Children of

a former generation were obliged to read "dime-novels" or nothing. Now they can be offered just as interesting stories, free from impure suggestion and false notions of life, and these, too, for a dime or even a nickel.[1] Such reading will not only furnish the child with much enjoyment, but will also largely influence his character. In this early period, when the memory is quick and retentive, the child will learn many gems of literature which will forever be a source of joy and intellectual inspiration.

To recapitulate, then, the aim to be sought in reading on the *formal* side is the ability to read distinctly, fluently, and with correct pronunciation, inflection, emphasis, and understanding, so as to convey the meaning to others. Secondly, on the *content* side, it is to create a good literary taste through the use of the works of the great masters of English and to give some knowledge of these works. These two aims should ever be in the mind of the teacher, neither one neglected for the other and both carried forward simultaneously.

Methods in Reading. —Various methods have been employed in teaching, reaching from the old A B C method to the most modern scheme. By the A B C method the child first learned his letters, then words of two or three letters, then larger words. Little attention was paid to the meaning of words; indeed, combinations were taught that had no meaning whatever, as ba, bi, bo, bu, etc. It was mere form without content, and the children wearily droned over these sounds monotonously and painfully. No wonder that

[1] The Five-cent and Ten-cent Classics offer such material.

they escaped from school whenever they could. In the more advanced classes sometimes the teacher set the class at reading while he assisted the others with their sums. Horace Mann showed the fallacy of the A B C method, as we have seen, and then followed the gradual adoption of the word method in which the word is taken as the unit. This was an approach to the truth, as the child can see and grasp a word quicker than he can comprehend one of the letters forming the word. The words selected were not necessarily confined to those of one syllable or short words, as had been the custom. It was recognized that the child can comprehend the word "express-wagon" as easily as he can comprehend the word "top," and the selection in the reading lesson was made with reference to the things with which the child is familiar. The word was illustrated by objects or pictures, the wonderful advance in the art of pictorial illustration being freely utilized.

The next step in the historical development of reading methods was the adoption of the sentence as the unit, as it was recognized that one in reading does not look at the letters that comprise the words, nor at the words themselves necessarily, but at the sentence as a whole, which conveys the thought. It is the thought that is sought in reading, and one does not stop to look at the words unless they are unusual or unknown. In this case the reader must give attention to the individual word, must spell it, analyze it, and seek its meaning. Hence he must know his letters, must be taught syllabication and made familiar with roots. With the sentence grasped as a whole, attention may be given to the thought-content, which

we have seen is the important feature of reading, the expression becomes natural and easy, and the old-time monotonous calling of words without regard to sense disappears. No method of reading is good that fails to have as its supreme purpose the gaining of thought. It may be confidently asserted that if the child has the thought, the expression will largely take care of itself, and reading will be to the child mere "telling," as already shown.

General Suggestions. — It is not the purpose here to exploit any of the modern systems of reading that are offered to teachers. I am endeavoring to establish fundamental principles which must be followed, whatever system of reading may be adopted. A few general suggestions, however, may be offered.

1. *Clearness.* — There should be continual practice to secure accurate and clear pronunciation. The vowels and the consonants, and the combinations of both, should have constant drill. An English father who was wholly unconscious of his use of the letter "h," heard his children practicing the vowels and, consonants from their school work in phonics, and for the first time he recognized his faulty pronunciation. After a little practice of the same work that his children were doing, he fully cured himself of his defect.

Repeated drills, constant correction, and everlasting repetition secure wonderful accuracy of pronunciation and clearness of speech. This is the key to success in reading from the standpoint of form.

Especial care should be taken to correct provincialisms. Such atrocious pronunciations as "caow," for cow, "haow," for how, "raound," for round, and the

flat "a" in such words as have, dance, fancy, etc., should be rigidly corrected. The teacher has a duty in this respect which has been quite inadequately appreciated. Our striking provincial pronunciations often subject Americans to ridicule. This evil can be corrected if the great body of teachers will seriously take it in hand, for the teacher shapes the future of any people. "It is the school master that has won our victories," declared von Moltke after the Franco-Prussian war, and surely upon him rests the responsibility of teaching correct expression.

2. *Naturalness.* — We have seen that the child is likely to read naturally if he understands the thought. In order to give him the thought, show him an object or picture and lead him to talk about it. Modern reading books are wonderfully adapted to the work of furnishing subject-matter that children can understand and talk about. It is a long step from the "Orbis Pictus" of Comenius to the beautifully illustrated reading book of today. It is easy to lead the child to understand that the word "boy" placed beneath the picture of a boy is only another means of representing the idea. He can also be led to tell the story suggested by the picture in the words of the book which he is reading. There is little likelihood of the child's being unnatural if he has caught the thought.

3. *Accuracy.* — The child should not be allowed to guess or recite from memory. I have known children to read from a book, page after page of material that they have been over several times, and they could "read" just as well with the book upside down. The pictures aided them to remember what the page con-

tained, and they glibly recited from memory without reading at all. To correct this the teacher must have some mechanical drill-work, such as picking out separate words or sentences to test what the child really knows. The employment of supplementary reading books, so that the child is not obliged to go over the same work until he has learned it by heart, is the best means of preventing this tendency.

4. *Selection of material.* — Text-books in reading are admirably meeting the demand for suitable material. They are properly arranged and well illustrated. They are offering to children the gems of English, put into such form and so adapted as to meet the needs of the various ages. From children's stories, suited to the primary grades, the child is led step by step into the realms of the best literature that the language contains. In this field the teacher of reading has a wonderful opportunity to store the minds of her pupils with beautiful thoughts and noble ideals. It has already been shown that there is an abundance of such material, and these books should be freely placed into the children's hands, in order that they may exercise their newly-acquired attainment. In all the school activities there is no more efficient means of character-building or of preparing the human being to appreciate and enjoy life than that which reading furnishes.

5. *Training in thinking.* — The child learns to read in order that he may think. For this reason much stress must be laid upon the content side of reading, and yet the formal side must not be neglected. We repeat that the child must be able to read intelligibly, so that others can understand. But one reads

aloud comparatively little. Most of one's reading is for the purpose of gaining the thought. Therefore the essential work of reading is to train in thought-getting. In the early stages the child should be taught to scan the sentence from beginning to end to get its meaning, and when he is ready to render it he should not be interrupted till he is through. Interruptions are likely to attract attention to mere *form*, while the object is to get the *content*. Let the criticisms and suggestions come at the end, so as not to disturb the continuity of thought. I have seen a reading exercise in which each pupil read until he made a mistake, which was promptly corrected by his classmates, and then another read on from that point. Of course this was a mere formal exercise without a particle of thinking.

In conclusion, let me repeat that reading is the most important subject of the school course, that it should be most interesting and fruitful, and that great care should be exercised both in the choice of material and in the best method of presenting it. "To teach a child to read, and not teach it what to read, is to put a dangerous weapon into its hands," says Charles Dudley Warner.

CHAPTER X

THE TEACHING OF SPELLING

Place of Spelling in the School. — The English language presents many difficulties in its orthography, because of its unphonetic character. Hence the school has a burdensome and yet most important duty to perform. Criticism of the modern school falls most heavily upon spelling, because errors in it are so apparent, and because its use is so frequent and necessary. I have already shown that there is less reason for such criticism than many would think. Nothing, however, is so inexcusable in written composition as poor spelling. No apology for the work of the school will suffice if it fails to teach the children to spell.

A few years ago the exclusion of the spelling book from the schools was advocated by educational reformers on the ground that many of the words found therein are but little used, and that isolated words without definitions do not become a part of one's usable vocabulary. It was urged that the child's spelling lessons should be selected from his reading book, arithmetic, grammar, etc., and from life, and that he should be required to spell only the words he uses. No doubt there was much to commend in the reforms proposed. There is little use in giving pupils words beyond their understanding, outside of their environment, and of no practical value to them. It was also

urged that formal spelling lessons are unnecessary, that the child should learn to spell in connection with his other lessons and thus build up a vocabulary of his own which he would unconsciously spell correctly.

It was found as a result of this reform that spelling lacked system, that it was side-tracked for other subjects that had a fixed place in the curriculum and therefore received too little attention, that it was difficult for the teacher to select the right words, and that the children were not learning to spell. Consequently a reaction set in, and while the new methods of spelling were retained, a modernized spelling book was introduced which seeks to present in a systematized form the words essential and appropriate to the formation of the vocabulary of the child. It became evident that spelling must have a place in the program of work, that it cannot be merely incidental, and that it must be considered as a serious matter. I shall try to indicate the means by which this important subject can be made to meet modern requirements.

Aims in Teaching Spelling. — The aim sought is to give the child the ability to spell such words as he will employ in letter-writing, composition, or business practices. While occasionally he may be called upon to spell words orally that he would not commonly use, and while it may add to his satisfaction to be able to meet such tests, the school cannot be required to provide for such remote contingencies. If the school succeeds in training its pupils to spell accurately such words as they will use in any kind of original composition, or in taking ordinary dictation, I think it will have met all just requirements in spelling.

Methods and Devices. — Spelling is largely a memory exercise. This must not be lost sight of, whatever method be employed. That which best fixes the form of the word in the child's mind is the best method. A teacher of fourth grade pupils almost entirely of foreign parentage, — Germans, Swedes, Danes, Hungarians, and Italians, — who heard no English at home, secured remarkable results by the following method: She selected twenty words each day from the spelling book and from other sources, placed them on the blackboard plainly written, explained their meaning, pronounced them, and required the children to pronounce them after her, calling attention to any peculiarities of the words. After thus going over the list several times, she had the pupils copy it. By this practice she appealed to the ear-minded and eye-minded as well. This is important, for some people catch a word by seeing it and others by hearing it expressed. She required the words to be written both separately and in sentences, to prove that the children had grasped their meaning. Previous lessons were frequently reviewed, so that the words might not be forgotten. In spite of the handicaps of a scant knowledge of English and no help at home, the children rarely missed in spelling. There were forty children in the class, who were given twenty words a day, or a total of 4000 words per week, and usually there were not more than four or five misspelled words out of this number. In the reviews the children were called upon to use the words in sentences, which was a good test not only of the spelling but also of their comprehension of meanings of the words.

The following suggestions are offered to aid in teaching spelling:

1. *Written and oral work.* — A large part of the time should be devoted to written work, for the reason that nearly all the practical use of spelling is in the form of composition. The dictation of the lesson should be both written and oral, in order to meet the needs of the eye-minded and the ear-minded. Oral spelling, however, should not be neglected. There are occasions — rare, it is true — when it is important to be able to spell orally. It is well occasionally to have a spelling match, to allow the pupils to choose sides, to "spell down," and to employ other devices in order to stimulate enthusiasm for spelling and awaken a healthy rivalry among the pupils. These contests are enjoyed by children, and they aid in teaching oral spelling. In the written work the writing must be very plain and legible, the pupil being charged with an error when there is doubt as to the letter used. The papers should be corrected by the teacher, the errors marked, and individual attention called to them later.

2. *System.* — While words from other lessons should be taught, there should be a systematic teaching of spelling, such as is outlined in a text-book on the subject. Spelling must have a regular place in the daily program and should not be treated as incidental. It should be taught in connection with every school exercise, but should have also a specific place for itself.

3. *Drill.* — The teacher must go over the words time and again, until the impression of them is thoroughly fixed. Especial attention should be given to difficult and unusual words, and to those that are often

misspelled. Too much emphasis cannot be laid upon frequent drill.

4. *Rules.* — A few simple rules may be helpful, especially to older children, but little dependence can be put upon them to make good spellers. To apply them requires good judgment, and there are too many exceptions for the child to remember. Any text-book on spelling will offer such rules as the teacher may deem advisable to employ.

5. *Capitals and syllabication.* — The use of capitals should be emphasized, and the child should be carefully taught how to divide words into their proper syllables, especially at the end of a line in composition. Word analysis, with its treatment of roots, derivations, prefixes, suffixes, etc., is a great aid in the teaching of spelling.

6. *Composition.* — The best test of spelling is found in its use in composition. Hence the most of the work should consist in sentence or composition writing. It is of little use for a person to be able to spell a word individually if he cannot properly employ it in letter-writing or other composition.

7. *The dictionary.* — The child should be taught early how to use the dictionary and how to seek its help in finding the spelling or meaning of a word. By its use the inherently weak speller may overcome this defect. A young man who was seeking advancement in the army was seriously handicapped by his poor spelling. He was not sure of himself with the most common and simple words. He purchased a pocket dictionary and systematically looked up every doubtful word that he wished to use. It was not long

before he overcame his weakness and successfully passed the required examination.

The Spelling-Bee. — Among the historic educational practices of the past, the spelling-bee stands out most prominently. With so few entertainments to attract people, under the primitive conditions of country life, the announcement of a spelling-bee was sure to attract all the people that the schoolhouse could hold. Sides were chosen of such as would consent to spell, and the contestants were not by any means limited to the school children. Anyone could enter the lists who would. Words were given from side to side alternately, and if a word were missed and correctly spelled on the opposing side, a speller could be chosen over to the winning side. This continued until one side was victor. After this all stood up in a line to "spell down," and he who was the last to succumb to a hard word was the hero of the evening. It was a mere memory test, as no meanings of words were given excepting when two words of different meanings had the same pronunciation, as in the case of "pair," a couple, and "pear," a fruit. Probably the chief good of these meetings was the amusement they afforded, rather than as a means of teaching spelling. For oral spelling has but little use in life, and many of the words given out were such as one would never use.

But there has been a revival of the spelling-bee in many parts of the country in which the old people have been pitted against the children of the schools; and although the latter were meeting the former on their familiar ground, I do not know of an instance in which the children have not been victors.

The best test of spelling, I repeat, is found in writing. One has only to read old letters or documents to discover that this much vaunted gift was lacking in early times and that our forefathers were not good spellers. But this revival of the spelling-bee no doubt will aid materially in making better spellers, especially orally.

As a final word, let me say that there is no excuse for poor spelling, and it is the duty of the teacher to send forth her pupils possessing this primary and essential qualification for life. If the school fails to do this, criticism of its work is entirely just and wholesome.

CHAPTER XI

TRAINING IN LANGUAGE

Influence of the Environment. — It is claimed by many that if the child is brought up in an environment where only correct English is used he will not need to study formal grammar. Undoubtedly such an experience is of great aid, but comparatively few homes furnish such a condition. Even if the home is all that could be desired as an environment for children, it must be remembered that they associate with other children and must mingle with the world. In these associations naturally children will absorb incorrect forms of speech, in spite of the most careful home training. While the power properly to use one's mother tongue in speaking and writing, and that unconsciously, is of highest importance as an educational asset, this does not suffice,— one must know *why* an expression is right or wrong. Address a child of foreign parentage in the language of his forefathers, and it is very seldom that he will reply in that tongue. Possibly he is ashamed of his ancestry and does not want to be known as German, Italian, or Slav; nor is he sure of the purity of the language of his home. He has not studied its grammar, does not know what is correct, and consequently he will not use the language which he readily understands and speaks at home but of the correctness of which he is not sure. The high

school student that has had a year or two of German will not hesitate to show his knowledge of that language when opportunity offers, because he has the confidence given by a scientific training in the grammar of that tongue. Therefore, even if the child has been accustomed to speak correctly at home, he must have training in grammatical forms.

The fundamentals of language must be taught; that is, the child must know grammar as the basis of his English. Such knowledge will doubly fortify him, both in speech and in written composition. Of course the teacher must be vigilant, in season and out of season, in every subject taught, and from the very outset of the school course, to secure the habitual use of good English. Eternal vigilance, constant attention, and patient correction of false expressions, whenever seen or heard, should be the watchword of the teacher. Landon says, "The study of grammar brings into relief and fixes in the pupil's mind a standard of accurate usage, fortifies him against the influence of bad examples by making clear the nature of wrong forms and faulty constructions, and renders his imitation of what is correct more certain, rapid, and intelligent." Grammar is not only essential to the understanding and use of language, but it has also a great disciplinary value. It is educational as well as utilitarian.

Aims in Language Training. — What is the aim to be sought in language teaching? In general, the answer would be that the aim is to establish the power to use the English tongue habitually, fluently, and accurately, both in speaking and in writing. This power

should become so completely habitual that even under unusual circumstances, such as examinations, tests, etc., correct language will unconsciously be employed. A second aim will in a measure be sought, namely, that of acquiring a knowledge of the language itself, and of the principles governing its formation. This aim can be reached to a considerable extent only with advanced students, especially students of philology. Hence the study of formal grammar should not be undertaken too early. Judgment and logical power are necessary to an understanding of this subject, and these powers develop in the late grammar grades.

Methods. — When the child enters school at six years of age, he possesses a vocabulary of five or six hundred words, depending upon his early environment and his natural intelligence. The school must increase this vocabulary and teach its fluent and proper use. This is done by introducing suitable material and by calling upon the pupils for the expression of it in both oral and written form. It must be largely oral at first, the children being encouraged to tell stories and to dramatize. Modern schools are taking advantage of the natural tendency of children to act out their ideas in the form of a play or drama. It proves a very fertile means of awakening interest in reading and in language work as well. There should be very little writing by pupils in the first year or two. Indeed, some critics believe that the children are given too much writing all through the elementary school.

Language Lessons. — White remarks that "All language training may be so united with the other exercises of the school, as to be a part of them, thus

practically realizing the principle of concentration. This union is eminently practicable in the exercises in reading; the exercises in expression affording material for reading, and the development of reading lessons affording fine practice in oral expression. Indeed, the telling of what one knows and feels and the reading of thought and feeling expressed in written language are but different phases of the same mental process." He further adds, "Every exercise of the primary school that leads to knowledge properly ends in the expression of such knowledge by the pupils. This is true of the lessons in nature, on human life, morals and manners, etc. When training in expression is the end, it is a mistake to let even the story-exercise end with the telling of the story by the teacher. This may interest and please the pupils, may make a desired impression, but the vital matter is reached when the story is related by the pupils. It is what the children can tell that is evidence of real appropriation."

Realizing the importance of connecting language work with every school exercise, some urge that this will suffice, and that therefore there is no need of formal language work. Upon this point I quote again from Dr. White. "The art of language is more difficult than reading or numerical computation, and it should certainly have as large a place in the elementary school. *It should be a daily exercise.* . . . What is needed is both incidental and regular training in expression, conscientious language training all along the line. There is no danger that the important art of language will receive too much attention in school training."

There is abundance of material at hand which is

easy to adapt to the language work. Nature study, stories from the Bible, history and mythology, fairy tales, songs, poems, pictures, biographies, and the great variety of objects at hand offer an abundance of interesting material. Unfamiliar expressions should be avoided. The child should be allowed both to tell and to write. Composition will cease to be a bugbear if the pupil is allowed to write concerning a subject of which he knows something. To require a child to write on "Virtue," "Patience," "Perseverance," "Happiness," or other abstract themes, is to make him hate composition. Let him describe "A trip into the Country," "What I saw at the Fair," "A Picnic," or some other event or thing that has come within his experience, and he will love composition, for children love to tell what they know. Descriptions of animals, objects, and events not only serve as material for composition, but also tend to cultivate the power of accurate observation. Letter-writing with punctuation, capitalization, correct forms, accurate spelling and construction, should be emphasized at this stage. Dramatization will furnish fertile and interesting material for both oral and written expression.

By these means the child will extend his vocabulary, enlarge his scope of ideas, and learn to use language correctly and fluently. Here again is the celebrated aphorism of Comenius — "We learn to do by doing" — justified and illustrated. The child will also gain some insight into the simpler forms of grammar, such as the parts of speech and the construction of simple sentences. Nor should the teacher hesitate to use the common grammatical terms. The child can learn to

employ the term *noun* as easily as he can learn to employ the term *name-word*, the term *verb* as easily as *action-word*.

Grammar. — Spencer declares, "As grammar was made after language, so ought it to be taught after language." Dr. White is of the opinion that "English grammar has an important function in school training, and no other study can take its place." The purpose of grammar is to furnish a standard whereby one may be sure as to the correctness of the English employed, whether spoken or written, and to systematize the forms of language, to develop the power of analytical judgment, to discipline the intellectual powers. Much of grammar is abstract, and therefore the study leads the pupil to abstract reasoning, the goal of educational endeavor. Because it is so largely abstract it is obvious that formal grammar should not be introduced too early in the school course.

The inductive method should be employed in teaching grammar; that is, the child should be led up to the rule through many examples. When the rule is comprehended, it should be committed to memory. We are governed largely by rules of life if we are men of established habits, and in our intellectual life also it is well that we should be fortified with rules which summarize the truths that we possess and have assimilated.

Sentences should be constructed not only to illustrate the rule, but they should also be analyzed and the application of the rule pointed out. Perhaps too great stress in former times was laid upon parsing. There is no doubt, however, that it did fix the parts of speech

and their relation to the sentence as a whole in the minds of the pupils. It required a constant application of rules, as every exercise closed with, "According to the rule which says," etc. The pupil will now have a text-book on grammar in his hands, and under the wise direction of his teacher should find the subject interesting and profitable, thus acquiring the ability to use his mother tongue correctly, and, at the same time, becoming familiar with its fundamental principles while gaining a fluent mastery of it.

Composition. — I have already touched upon composition in the treatment of language lessons. It must go hand in hand with both language lessons and grammar. Landon clearly shows the purpose of composition in these words: "The teaching of composition in school should be directed to secure the writing of plain straightforward English prose, free from error or obscurity." Naturalness, simplicity, correctness, clearness, and force are the ends to be sought. All compositions should be carefully criticised by the teacher, and if possible discussed individually with the pupils. Such criticism should be of great value to the pupil. Indeed, composition work without such individual criticism largely loses its efficiency.

As a final word, let me say the training in language should seek to give a fluent, accurate, and easy style, both in writing and in speaking, and it is therefore one of the most practical subjects taught in the whole curriculum.

CHAPTER XII

GEOGRAPHY TEACHING

Scope of the Subject. — In the old text-books geography was defined as a description of the earth's surface. Consequently chief attention was given to fixing and memorizing the location on the map of rivers, bays, lakes, mountains, cities, etc. A truer conception of geography views the earth as the home of man, and emphasizes man in his relation to his environment as the central thought. "According to the definition of geography, which treats of the relation between man and the earth, a hill or a lake is worthy of mention only because it bears a relation to us, the men upon the earth; considered by itself it is not a part of geography." Since man in his relation to his surroundings is the central idea, it becomes clear that home geography, the things immediately at hand, must be studied first. In that educational classic, "The Report of the Committee of Fifteen," this matter is stated so completely that I quote in full: "The child commences with what is nearest to his interests, and proceeds gradually towards what is to be studied for its own sake. It is therefore a mistake to suppose that the first phase of geography presented to the child should be the process of continent formation. He must begin with the natural differences of climate and lands, and waters, and obstacles that separate peoples, and study

the methods by which man strives to equalize or overcome these difficulties by industry and commerce, and make it possible for each to share in the productions of all. The industrial and commercial idea is therefore the central idea in the study of geography in the elementary schools. It leads directly to the natural elements of difference in climate, soil, and productions, and also to those in race, religion, and political status, and occupations of inhabitants, with a view to explaining the grounds and reasons for this counter-process of civilization which struggles to overcome the differences. Next comes the deeper inquiry into the process of continent formation, the physical struggle between the process of upholding or upbuilding of continents and that of their obliteration by air and water; the explanation of mountains, valleys, and plains, volcanic action, and the rain distribution. But the study of cities, their location, the purposes they serve as collecting, manufacturing, and distributing centers, leads most directly to the immediate purpose of geography in the elementary school."

Aims in Teaching Geography. — In the foregoing statement we find the aim in the study of geography outlined. A further consideration may, however, be profitable. President Butler says, "As a bridge over which to pass backward and forward from the study of man's habitat to his activities and his limitations, and back again, geography is a unique and indispensable element of an elementary education. So treated, it is excelled in suggestiveness by none of its companion studies."

Dr. McMurry, in his "Special Method in Geog-

raphy," marks out a distinctly geographical course from the third grade on. He remarks that "Geography from the beginning deals with a very interesting and valuable series of topics which the separate sciences do not attempt to treat. Geography has the double interest which attaches to natural objects and human beings. It deals with people in the midst of their physical, social, industrial, and political surroundings. Geography studies should be intensely practical and social in their influence, because in the industrial and commercial pursuits men are producing and distributing those articles of mutual interchange and accommodation by which they get better acquainted and learn to depend upon one another."

He further suggests the following plan of study: (A) "Home geography, with its excursions and varied study of local topography, occupations, and social life. (B) The leading topics of the United States and North America. This is a very interesting field of broad and varied studies, illustrating almost all phases of geographical knowledge. (C) The important phases of European geography. While Europe is relatively a small part of the world, it has a greater number of valuable and instructive geographical topics than any other continent, due to the varieties of its physical structure, the many distinctly different nationalities it exhibits, and the higher degree of excellence attained in the arts of life. (D) The movement from Europe outward into the world-whole, — Asia, Africa, South America, Australia, — and the larger physical and commercial aspects of the whole world."

Summarizing, then, as to the aim in teaching geog-

raphy, we would say in general that it should touch upon those things that have to do with the life of man,— upon the products of the soil and the factory; upon transportation by land and sea; upon climate and its effect upon vegetable growth, as well as upon the welfare of man; upon the natural resources in mines, soils, quarries, forests, streams, etc.; upon cities and the reasons for their location and existence; upon forms of government and their effect in protecting the liberties and stimulating the enterprise of a people and in promoting justice; and upon the religion of a people and its power over men's lives to lead to righteous living.

While learning these things, the pupil will also acquire all other necessary data, such as locations, boundaries, and other geographical facts. There will be no difficulty in correlating the work in geography with other subjects of the curriculum.

Methods in Geography Teaching. — ***Home geography.*** — As already suggested, the work in geography begins with a study of the child's immediate environment. Very early, the child can be taught the directions, east, west, north, and south. Beginning with the schoolroom he becomes familiar with the points of compass of the schoolgrounds and the immediate vicinity. No more important knowledge can be acquired than that which prepares one to locate himself upon either land or sea. Visitors in a strange city or country, as well as sailors upon the ocean, are sadly handicapped if they are unable to determine directions. A party of boys from twelve to fourteen years old from Stoy's school in Jena were making a seven

days' tramp through the Luther country in central Germany. One day after marching through the Thüringian forest, so dense that not a glimpse of the sun had been obtained for several hours, they came into an open space on top of a mountain. The teacher gathered the boys about him, took out his watch, and announced the time as four P. M. "Which way is north?" he asked. The boys took a look at the sun's position in the heavens and every one pointed at once to the north. They then took out their pocket maps, located the place where they stood, faced towards the north holding their maps before them, and were able to identify the cities, villages, rivers, castles, mountains, valleys, in the wonderful panorama that lay within their vision. Ability to do this was the most important attainment they needed at that moment. It made them masters of the situation. Far more stress should be laid upon this simple and yet most important knowledge than is customary in the American schools.

Excursions. — In the study of home surroundings it is necessary to see the thing to be learned. Too often the child gets his conception of geography from the text-book and maps, sometimes even without much use of the latter. Some personal experiences may illustrate this point. As a boy, I learned from the book that "A mountain is a high elevation of land," and I could locate the Rockies, the Alleghanies, the Catskills, the Andes, upon the map. And yet, I could not look out of a window in that old schoolhouse in any direction without being confronted with mountains; indeed, I could see a spur of the very Catskills

that I knew in the book. There was not the slightest association between the book statements and the real mountain. "A river is a stream of water flowing through the land," according to the book, but that had no reference to the creek where I fished, waded, and swam, and which was a part of the very Susquehanna that I could easily locate on the map but knew nothing about. And so it was with everything taught in geography. It was mere "recitation" from the book without reference to the real things that we could not escape if our attention had been guided and if we opened our eyes in any direction.

The excursion should not be simply a wild picnic. It must have a definite purpose for which the pupils have prepared beforehand. The teacher should explore the ground in advance, so as to know just what she will find and where to find it. The children should be made familiar with the subject-matter, so that they may be keen to observe and quick to comprehend the lessons the teacher desires them to learn. They must understand that they are out for work and not for play. But while there will be plenty of enjoyment as they wander through the fields and woods, by the brooks, in the valley or ravine, in the midst of the glories of nature, yet there is a definite purpose which must not be lost sight of. They are still at school, though their schoolhouse is not hemmed in by four walls of plaster, but is boundless amid the beauties of God's wonderful nature. Such field trips should yield an abundance of first-hand information which later may be worked over and digested in many exercises of the schoolroom.

Dr. White aptly remarks, "There should be no haste to get the infant away from his little world of home. Let him observe and know its animals and birds, its trees and flowers, the sunshine, the rain, the clouds, the winds, etc., before he tries to fly beyond the horizon on the poor wings of words. . . . The teacher's guiding aim should be not only to develop the power and habit of geographical observation, but also to give the pupils a clear and accurate knowledge of primary ideas and facts,— to lay a sure foundation of geographical knowledge."

The Elementary Course. — The knowledge thus gained forms an excellent groundwork for the more formal study of geography. The child is now ready for a text-book, supplemented by maps and globes. It must not be mere memory exercise, however. As the child learns the location of a city, he must also become acquainted with its industries, its institutions, etc. Descriptions of rivers from source to mouth must take into account the territory they drain, the cities on their banks, and their importance as arteries of trade and commerce. Mountain ranges have an effect upon climate, are obstacles to transportation, and are of interest on account of the rivers having their source in them.

After gaining a knowledge of the topography of a country,— its mountains, its valleys, its plains, its elevations, its rivers, its lakes, its latitude, etc., the child can easily be led to conclusions as to what its productions and occupations must be. He will also understand the reason for the location of cities and much concerning the inhabitants of the country.

Thus he studies the earth as the abode of man, which, as we saw at the outset, is the province of geography. The child must be taught to read and understand the maps and globes. Map-drawing should be utilized as an important aid in the geography work. It is an excellent practice to have the class bring in an outline map of their own construction and locate upon it, under the direction of the teacher, the rivers, mountains, cities, etc. The corn, wheat, cotton, sugar, rice, and fruit belts can be indicated by different colors. The location of coal, iron, gold, petroleum, and other deposits can be fixed. The great forest reserves can be marked and their importance to the river systems and their influence upon climate shown. This will fix the various geographical data in the minds of the children, and will relate the science to the life of man far better than a study of the text-book or of printed maps will be able to do. The shape of the earth, its poles, equator, meridians, latitude, longitude, the zones, etc., can best be taught by the use of the globe.

McMurry says,[1] "Let it be observed first of all that geography, more than other studies, has domiciled itself among men in the midst of their homes and usual occupations. It walks directly into the market places, homes, factories, mines, and fields where men are at work. It observes, studies, and sympathizes with the labors, amusements, and hardships of the people as they are beset by climate and physical surroundings. Dealing with the actual conditions of life, it sees the true and necessary relations in which different de-

[1] "Special Method in Geography." McMurray offers an excellent course under the title, "A Course of Study Freely Outlined."

partments of knowledge stand to one another. It finds that things widely separated in the studies of the schools are closely jostled together in life."

Geography can be made one of the most democratic of all school studies and, at the same time, one of the most interesting and practical. But it must be considered in its relation to life. There is no subject that naturally offers so much of real contact with life, and therefore there should be no difficulty in making it intensely interesting. The text-book must be kept in the background; when it is used at all, it must be employed as a servant to aid in vivifying the lessons that have been gained first-hand as far as may be from the study of the world immediately present. From these early lessons the study must reach out to that great world that is beyond the immediate vision and which cannot be visited. Thus all geography may be studied in its relation to the life of man.

CHAPTER XIII

THE TEACHING OF HISTORY

Importance of History. — "History," says Dr. Harris, "is a window of the soul that looks out upon the deeds of the race." Dr. Hinsdale defines history as follows: "In the broadest sense, history is the story of man living in social relations in the world, as traced in various records and memorials."

It is of highest importance in a republic that all the people should be well informed concerning its history, its institutions, and its form of government. A despotism may survive even if the mass of its people are ignorant. But a self-governing people must be intelligent as well as patriotic, and familiar with the form of government under which they live and which they control. Commissioner Claxton shows in his report of 1912 that the average attendance for all children throughout the United States is but little over five years of two hundred days each. It would be safe to assert that not more than one in five of the youth of the land ever reach the high school. If such be the case, the essential knowledge concerning citizenship for the people as a whole must be implanted in the elementary school. Hence the importance of history as a subject in the common school course in preparing the boy and girl for the life that they must live.

From the very nature of the subject history offers

abundant and interesting material quite within the intellectual reach of young children. On this point Dr. McMurry remarks, "This intelligent interest is awakened first of all by a lifelike picture of the personal fortunes of men like Daniel Boone, or David, or Alfred the Great. Such biographies open a highway into the struggles and dangers of communities and young nations. The life stories of inventors and benefactors like Stephenson, Fulton, and Peter Cooper, of Florence Nightingale, John Eliot, and William Penn, kindle social sympathies of lasting worth." Thus history becomes an excellent means of moral instruction. All children love stories, and this natural instinct can be utilized in fixing historical facts and in drawing the important lessons therefrom. The lives and deeds of great men will furnish centers around which important events and historical epochs can be made naturally to group, thus awakening patriotism, stimulating ambition to live a noble life, and inculcating moral standards. History can be made an efficient aid to school discipline in that it awakens a desire for right action, the fundamental principle of government. Quoting again from McMurry, "There are certain lofty characters, like Alfred the Great, Cæsar, Charlemagne, Luther, Alexander, Isabella, Cromwell, and Napoleon, who have taught the world such commanding lessons that every child should have the chance to grasp in a few points the significance of their lives."

From the nature of the subject it will be easy to adapt the material to the comprehension of the children to teach them lessons of the highest importance in life. Great emphasis should be placed upon such

teaching at this time because, as already pointed out, it is the only opportunity that a large portion of the pupils will ever have to obtain this knowledge and receive this training.

1. **Aims and Values of the Subject.** — Many teachers have no adequate conception of the purpose to be aimed at in the study of history. McMaster, in his great work, "A History of the People of the United States," has given such a comprehensive view of the aim to be sought in teaching history that I shall give it in full in order that teachers may have it for frequent reference: "In the course of this narrative much, indeed, must be written of wars, conspiracies, and rebellions; of Presidents, of Congresses, of embassies, of treaties, of the ambition of political leaders in the senate-house, and of the rise of great parties in the nation, yet the history of the people shall be the chief theme. At every stage of the splendid progress which separates the America of Washington and Adams from the America in which we live, it shall be my purpose to describe the dress, occupations, the amusements, the literary canons of the times; to note the changes of manners and morals; to trace the growth of that humane spirit which abolished punishment for debt, which reformed the discipline of prisons and jails, and which has, in our time, destroyed slavery and lessened the miseries of dumb brutes. Nor shall it be less my aim to recount the manifold improvements which, in a thousand ways, have multiplied the conveniences of life and ministered to the happiness of our race; to describe the rise and progress of that long series of mechanical inventions and discoveries

which is now the admiration of the world and our just pride and boast; to tell how, under the benign influence of liberty and peace, there sprang up, in the course of a single century, a prosperity unparalleled in the annals of human affairs; how, from a state of great poverty and feebleness, our country grew to one of opulence and power; how her agriculture and her manufactures flourished together; how, by a wise system of free education and a free press, knowledge was disseminated and the arts and sciences advanced; how the ingenuity of her people became fruitful of wonders far more astonishing than any of which alchemists had ever dreamed."

This is a broad conception of the aims to be sought in teaching history, and while it may be impossible for the teacher of the elementary grades to give her pupils such an extensive view, owing to their immaturity, and owing to want of time, at least she should hold this view herself. Thus she will possess an overflowing fountain of knowledge and will not fail to interest her pupils. To teach history the teacher should have a wide knowledge, so as to be able to draw material from many sources and to correlate and weave it into a unit, to point out the various influences that have led up to an event or made an epoch, to show the relationships that exist, and to draw lessons that affect the world's progress and shape the destiny of man. Every teacher must know far more than she will be called upon to teach her pupils. He that knows but little more than those he instructs has but little to offer, and is therefore a poor teacher. We have seen that students go to the

ends of the earth to sit at the feet of men who have gained a mastery in some field of learning, in order to absorb something of the results of their research and thinking.

It is not expected that the common school teacher, with her multifarious duties and with the many subjects that she must teach, shall be a great specialist in each subject. But with the abundance of material now at hand she can at least gain a proper idea of history and possess herself with far more than she can ever give to her pupils. Conceiving history to touch human life, it becomes of vital interest and of incalculable profit to the pupils. Especially is this view of history of importance to a self-ruling people. It leads directly to an understanding of our form of government and prepares for intelligent and patriotic citizenship. Therefore it is of supreme importance to study history in the elementary school.

In a word, then, the aim of the study of history should be to give the pupils a view of human life past and present; it should train the judgment, stimulate the imagination, and cultivate the memory; it should foster patriotism and familiarize the children with the government of their own country and their duties towards it; it should arouse ambition and inculcate moral habits through the study of heroes and men who have influenced the destinies of the human race, cultivated the arts of peace, and fostered freedom.

Methods in History Teaching. —

1. *In the primary grades.* — The early method of teaching history before books were written or had become universal was by word of mouth in the form of story.

Thus the early Jews taught their children the law and the deeds of their ancestors, and thus the Greeks perpetuated their immortal history. It is a natural instinct of children to love narration if told with vividness and in language suited to their comprehension. Stories from the Bible are quite suited to the needs of little children, while the lives of Columbus, Isabella, De Soto, Raleigh, Washington, Daniel Boone, Lincoln, can easily be portrayed so as to fascinate the young and convey very important historical lessons that will never be forgotten.

While no text-book will be placed in the hands of the primary children, the teacher must be so thoroughly familiar with the facts through investigation in many books as to be able to tell the story with accuracy and with force. There is abundance of material at hand quite suitable to the needs of young children, and the primary teacher can spend many profitable hours in recounting to her pupils heroic and stirring deeds and events, thus fixing many historical facts in their minds at an early age. These stories should be retold by the pupils, orally at first, and in writing as soon as they are able to do so. By skilful questioning the teacher can correct errors, supplement the deficient knowledge, and fix the lesson in the minds of the children. While the work should be intensely interesting, it should not be mere entertainment. The children are already learning history.

2. *In the intermediate grades.* — As the children become older and are able to reason, the teaching should be more systematic and follow a more definite plan. The causes that led to a war and the results that fol-

low, such as the payment of indemnities, the ceding of territory, the aggrandizement of the victors and the corresponding humiliation of the vanquished, the loss of life and property, all these should be brought out. By the use of maps the location of battles may be indicated and the territorial changes resulting from the conflict pointed out. There should still be little use of text-books by the class, the teacher leading them step by step from one event to another by means of oral exposition.

If there is a battle-field in the vicinity, the children should be taken to it and the details pointed out on the spot. But a careful preparation should be made beforehand by a full description of the battle and by a study of the details upon a map. The battle of Trenton was fought in the very center of the present city. The school children of the city have visited the various historic spots and placed tablets to locate the most important positions and incidents. Thus for all time not only the children but the stranger visiting the city will be able to locate where Washington stood when he directed the battle, where Colonel Rall fell, the house where he spent that fateful Christmas night in carousal, where the surrender took place, etc. This critical battle of the Revolution is thus made very real and vivid and the children gain impressions which they will never lose. History is easily made to them a real and interesting subject which closely touches the actual life of men.

The Battle-field of Jena. — I once visited the battle-field of Jena with a class of boys from a common school under the direction of their teacher. Suitable and thor-

ough preparation had already been made in the schoolroom so that the boys could intelligently understand the lessons to be gained by the expedition. Napoleon's attitude towards Prussia and the German people had been explained and his rapid march into the Fatherland described. The efforts of the tardily awakened German king to check his advances, the meeting of the opposing armies on the plateau above the historic little university town, and the bloody, decisive battle of Jena had been portrayed. So far as could be done by word-picture, by drawings and maps, and by descriptions the boys had been taught the story of Germany's terrible humiliation. They were then taken to the battle-field, the positions of the opposing forces located, and the character of the attack explained. Up this ravine the French Emperor had dragged his heavy artillery and gained an important position. Professor Stoy pointed out the wonderful sagacity of Napoleon in choosing his position at a point now marked by what is called "Napoleon's Stein." Each detail of the battle and the position of the commanders on both sides was made clear. There is no doubt that the lessons of the schoolroom were thus fortified and the events of that memorable day, October 14th, 1806, were indelibly fixed in the minds of the pupils. The boys' visit was made on the anniversary of the battle, a fact which added to the interest and doubtless aided in fixing the date.

In this period children can be led gradually towards the conception of history outlined earlier in this chapter in the quotation from McMaster. They should be given some reading, but this should be carefully selected and

definitely assigned. Oral and written reproductions should be required, and this work can be carried farther and the pupils held to a stricter account than is possible or advisable in the earlier grades.

3. *In the grammar grades.* — "Anything like a full chronology, either of American or European history, is out of the question in the common school," says McMurry. This does not mean that now the pupil may not seriously undertake to acquire a great deal of real history. There is an abundance of suitable material quite within the comprehension of pupils in these grades which may be related to them and concerning which they can do considerable collateral reading. Only it must be emphasized that this reading should be definitely marked out. The children are not mature enough to do research work and are therefore likely to waste time in profitless groping in the dark.

The New York State Education Department has issued a syllabus for the use of the schools in the state in which work for the fifth and sixth grades is outlined. This scheme seems entirely feasible. A definite plan of study is suggested with but little use of text-books, it being urged that, "The great value of the work for these years will depend upon the teacher's power of story-telling." This course includes a study of Leif the Lucky, Columbus, Drake, Raleigh, Roger Williams, John Smith, Miles Standish, Governor Winthrop, Henry Hudson, William Penn, Benjamin Franklin, Patrick Henry, Washington, John Paul Jones, Daniel Boone, Jackson, Eli Whitney, De Witt Clinton, Lincoln, Clara Barton, S. F. B. Morse, and many

others. It centers around the lives of men who have influenced the race in discovery and settlement, in war and peace, in the arts and sciences, in invention and in philanthropy. Abundance of suitable collateral reading is suggested for the study of each character and of each accomplishment for the advancement of the world.

This is followed by a course in American history for the seventh and eighth grades in which the pupils are provided with text-books for limited use. The syllabus suggests that "the history teacher must make a wise selection of material, search in many books for the best presentation of each selected topic, and must often invent methods of presentation. Forming images is an important process in learning history. Images are formed from the text. The teacher must test these images, correcting them when necessary with word pictures and illustrations. Many ideas must be translated into the language of the child's experience and environment." The material suggested includes a study of the American Indian, the Discovery and Exploration Period, the Period of Settlement, the French and English struggles for North America, the Revolution, the Confederation, the Constitutional Period, the Civil War, and a consideration of our form of government. The work of the earlier grades is reviewed and extended, and such topics as methods of transportation, the slavery question, tariff laws, postal facilities, inventions, etc., receive treatment. An abundance of collateral reading is outlined and the pupils are taught how to employ the information thus acquired.

Emphasis should be laid in this period upon the civic duties which the future citizen must assume. Memorizing dates and studying battles should have only a small place. McMurry suggests that "It has been one of the chief aims of educators to find out a series of epochs in the world's history which are most interesting and instructive to children in their successive stages of growth. As yet there seems to be no general agreement upon this point, and therefore our courses of study are in a shifting condition; but so much, at least, seems to be established, that a few important epochs well treated in a descriptive and even dramatic fullness are far better than a systematic, chronological survey of the history of many nations." Just how far the history of other countries of the world should be undertaken in the elementary school is debatable. It certainly is impossible to make a connected and systematic study of the history of any country except our own. But an insight into the history of some other nations is necessary to a proper understanding of our own history. The English, the Spanish, the French, and the Dutch peoples have played an important part in the discovery, settlement, and development of our country and in shaping its institutions. Important events in the history of these nations, therefore, should be introduced in the form of descriptive presentation.

In a word, the teacher should select material that will explain the world's progress, the growth of nations, and the development of the race up to the present time in order to show her pupils what has been accomplished and to give them an understanding of the age

in which they live. To this end text-books for the older children should be employed rather as a guide for the teacher than as a systematic scheme for the children to follow. Of course the subject should be closely related with geography by the frequent use of maps and outlines. Reproductions both oral and written may be expected more and more as the pupils advance. These will fix the material learned, give power of connected thought and statement, and serve as an excellent exercise in composition as well.

CHAPTER XIV

THE TEACHING OF ARITHMETIC

The Importance of the Subject. — Many believe that arithmetic is the most necessary and practical subject of the school course. That it is both necessary and practical is beyond question. It enters into the life of every person, and a lack of knowledge of arithmetic seriously handicaps an individual. An overestimate of value has led some schools to devote too much time to this subject, fully one-third of the school day being allotted to it. After all, the average person needs but little arithmetic in the affairs of life. If one were to reflect as to how little computation is really necessary for a day, a week, or a month, one would be surprised. One needs, of course, to know how to add, subtract, multiply, and divide, how to manipulate fractions, to handle compound numbers to a limited extent, and decimals, in order to understand percentage and to compute interest. But that is about all excepting for accountants, bookkeepers, engineers, and bankers. Indeed, even these have prepared tables and formulas, accounting machines, and other "short-cuts" which save them from much computation. Therefore, viewed from the standpoint of practical use, too much time is devoted to arithmetic in schools.

What Arithmetic Should Include. — I have already shown in the chapter on "Waste in Education" that many subjects treated in the ordinary text-book on

arithmetic, and demanded in our courses of study, might be eliminated and more profitable work substituted. The Department of Public Instruction of New Jersey, in a bulletin entitled "The Teaching of Elementary Arithmetic," suggests the following as the proper material for the elementary grades in arithmetic:

Grade I. *Counting numbers.*

Grade II. *Reading numbers.*

1. Integers — Arabic and Roman.
2. Common fractions.
3. Decimal fractions.

Grade III. *Writing numbers:*

1. Integers — Arabic and Roman.
2. Common fractions.
3. Decimal fractions.

Grade IV. *The process:*

1. Addition 2. Subtraction 3. Multiplication 4. Division	of	1. Integers 2. Common fractions 3. Decimal fractions to three places

Grade V. *Percentage applications:*

1. Trade or Commercial Discount.
2. Profit or Loss.
3. Commission.
4. Simple Interest.

Grade VI. *The following subjects should be treated largely for informational purposes:*

1. Taxes.
2. Insurance.
3. Stocks.
4. Partial Payments.
5. Bonds.
6. Bank Discount.
7. Compound Interest.

Grade VII. *Denominate numbers in useful problems of community value.*

It is further suggested that in all the topics under VI, together with Longtitude and Time, Ratio and Proportion, and Lumber Measure, the problems "should be of the simplest kind, and they should be used for their informational as well as for their mathematical value." Later in this chapter I shall present a detailed course in arithmetic.

We usually require in our schools fully eight years in arithmetic, giving at least a period a day, whereas six years should be sufficient. German schools succeed in bringing their pupils to an excellent mastery of this subject in six years, without daily recitations even during all that time. They do this by eliminating unnecessary material and by superior methods of teaching. This enables them to devote the seventh and eighth years to elementary algebra and constructional geometry, with an hour or two a week for advanced arithmetic. With the many new subjects knocking at the door for admission to our schools, subjects that the demands of modern life make imperative, it is evident that there should be a serious curtailment of the time given to arithmetic. Some of these subjects are of far greater importance than arithmetic in preparation for life, without minimizing the importance of that subject. It is of more account to be able to read, to appreciate literature and history, to interpret the wonders of nature and the phenomena of the world about us, to express one's self by voice or pen accurately and clearly, to know our social and political

institutions, and to be able to adjust one's self to one's environment and thus find happiness in life, than it is to be skilled in figures.

I have no disposition to underrate the value of arithmetic. Besides its practical use, which is unquestioned, though exaggerated, as we have seen, it also has a disciplinary value, concerning which educators differ in opinion. The doctrine of formal discipline, which holds that training in one subject like arithmetic gives clearness, logical power, accuracy, and mental alertness along other educational lines, is not accepted by all. No one will dispute the value of the training arithmetic gives, especially in all subjects in which there is mathematical application, such as geography and the physical sciences, as well as in those that apply to commercial and scientific vocations.

Nothing can take the place of arithmetic either from a practical or from a disciplinary standpoint, but it is not the only subject that has a practical or disciplinary value. It was formerly believed that mathematics was the only subject that trains in logical thinking. Other subjects, however, if properly taught, also train to reason, to judge, and to think, and modern methods of teaching are demonstrating this fact, as I am endeavoring to show.

Let us consider the *aim* and the *method* which should be in mind in teaching arithmetic, and thereby suggest its place, its purpose, and its limitations in the curriculum, and the specific end that it should seek to attain.

I. Aims in Teaching Arithmetic[1]

The chief ends to be sought in arithmetic are *accuracy* and *facility*. While children should learn to work rapidly in numbers, this is subordinate to accuracy. One of the principal educational values in arithmetic lies in its exactness. It necessitates close thinking and develops logical power. But while the essential aim is accuracy, rapidity must also be secured. This power is acquired only through drill. Some subjects may be taught without requiring much thought, but not mathematics. Guesswork will not do, for the results are absolute. Nor will mere memorizing of rules and formulas answer. The pupil must think, must reason, must go to the foundations, or his work in arithmetic will prove futile. A girl persisted in memorizing her geometry lessons; she not only committed the theorems to memory, but also the equations, the analyses, the demonstrations, and the conclusions. As a result any change in the position of the figures or the lettering, an alteration in the equations, threw her off the track. Of course she got nothing from the study of geometry, which of all subjects requires close thinking, reasoning, and absolute accuracy of expression. The same is true, in a measure, of arithmetic.

Again, the object of studying arithmetic is to acquire abstract notions. Indeed, this is an important aim in all teaching, for the possession of abstract or general notions is an evidence of intelligence, and a measure

[1] For excellent suggestions on teaching arithmetic, see White's "Art of Teaching," p. 242, in which the work of the various grades is treated.

of the knowledge possessed. This is the final and absolute test that marks the dividing line between man and the lower animals. No animal other than man possesses this power. Horses have been trained to perform marvelous tricks, and even to work mathematical problems, so that it has been claimed that they can reason abstractly. But cover their eyes so that they can get no hint from their trainer, remove the concrete means of suggestion, and they fail utterly.[1] As the possession of abstract notions thus marks the degree of intelligence, arithmetic, which furnishes an excellent method of obtaining these notions, becomes an important means of education.

We may summarize the aim in studying arithmetic as follows: (1) It prepares the child to meet the practical problems of everyday life. This necessitates absolute accuracy and great facility in the manipulation of numbers. It admits of no guesswork, as its results can be proven. (2) It has a peculiar disciplinary value because of its exactness. It gives clearness, logical power, mental alertness, and establishes a sense of truth, and therefore develops moral character. (3) It gives the child abstract or general notions. Nothing can take its place, either from the practical or the disciplinary standpoint. For this reason it has long held first rank in the work of the common school.

[1] Wide interest in this subject has been awakened in recent years by the performances in Germany of a celebrated horse, "Clever Hans." Many experts believed that here was a case of abstract reasoning in a lower animal. But Prof. Pfüngst has shown the utter fallacy of this claim in his book entitled, "Clever Hans." Other horses have been exploited and wonderful results obtained, but there is no proof of the possession of the power of abstraction.

Its value is by no means minimized when we say that it has taken too much of the time of the school; that there are other subjects also, which, when properly taught, develop the power to reason, to think, and to judge, and which are at least of as great practical value, and which also lay the foundations of character.

II. Methods in Teaching Arithmetic

The little child begins his study of number with objects. We have seen that too many objects must not be introduced, as they serve to distract and defeat the immediate purpose, that of mastery of the number. The child has only a limited power of attention, and anything that causes a withdrawal of any part of his attention from the end sought will serve to weaken his interest in what the teacher is seeking to do. Blocks, uniform in size, and not highly colored objects, which awaken too much attention in the object itself, are the best objects, and they are sufficient for all purposes of concrete illustration. They awaken no interest in themselves, and therefore the child soon ceases to think of the object, and gives all his attention to the number being taught. They should be used until the child has gained the abstract notion, until, if given an example like $5 + 3$, he instantly thinks 8, without having to think of 5 blocks and 3 blocks. Here again is seen the necessity of drill, of much repetition. "*Wiederholung, Wiederholung, Wiederholung, ewige Wiederholung,*" was Karl Volkmar Stoy's watchword in teaching children, and this is certainly sound so far as number is concerned.

If the tables are thoroughly learned, the child will not count on his fingers. I have already shown that when the child employs objects in counting it is a sure sign that he needs further drill, that he has not yet attained the abstract notion.

The Concentric or Spiral Plan. — The arrangement of number work, therefore, should be somewhat concentric or spiral, but should avoid the scrappy, superficial treatment which was true of some of the earlier attempts of this arrangement.

By the concentric or spiral plan in arithmetic, we mean beginning with the simplest elements of the important topics, and then passing on to the more difficult as we proceed through the higher grades until the fundamental topics become thoroughly familiar and are completely mastered. Good results in arithmetic depend in a large measure upon a proper arrangement of the topics to be treated in the lower grades. Addition is the simplest of all the fundamental processes, but if young pupils were drilled upon addition to the exclusion of all other processes, they would soon be struggling with its difficulties, lose interest, and become weary from its monotony.

Simple phases of the fundamental processes that can be performed with small numbers, weights and measures that are related to experience, and fractions that are concrete and result from the division of things, should be logically arranged, but the interest of the pupil, and his maturity of mind, should be the basis of the arrangement. The spiral system calls for thorough drill and therein lies its great value.

The Sequence of Topics. — The sequence or proper

order of the topics in arithmetic has much to do with its successful teaching. Thoroughness should be one of the important aims of every teacher of arithmetic, but thoroughness does not mean that the child shall do nothing but addition of long columns of large numbers until he has finished the topic. Nor should the absurd presentations of the concentric plan, which have been introduced within the last quarter of a century, be adopted.

It is evident to every thoughtful teacher that there are parts of each one of the fundamental processes which are beyond the maturity of the mind of the children of the primary grades, and that on the other hand there are simple phases of fractions, and measures, which are of interest and of practical use to the children of these grades. These topics can be selected and arranged so that a psychological as well as a logical order is observed, while the superficial treatment of some of the earlier attempts at the concentric plan are avoided.

Oral and Written Work. — Both oral and written work in number must be employed. It has well been said, "The ability to perceive principles in problems orally stated, to carry them through a course of reasoning, and to apply them in the solution of problems, is of greatest importance in disciplining and strengthening the mind. Hence, no system of arithmetic can be complete which does not combine oral with written exercises." A generation ago great stress was laid upon mental arithmetic in the schools, every child being put through Colburn's or Stoddard's, or some other "Mental Arithmetic." Doubtless the subject

was overworked, and this led to its elimination from the school course. There seems to be a tendency to restore it in a modified form, as it certainly possesses great educational merit. In the primary grades an abundance of concrete examples drawn from practical life should be given, thus making the child's number work of real value.

In the advanced classes in arithmetic, the method of procedure should be: (1) Teach the child how to solve problems, advancing from the easy to the difficult until he has acquired the ability to work accurately and speedily. (2) Then let him explain them and tell in his own language how he worked them, as a test of his complete understanding of the process. (3) And finally, require him to commit to memory the rule given in the text-book. Many teachers omit this final step, holding that if the child can work the problems and tell in his own way how they are done, it is sufficient. This is a reaction from the former method of having the rule committed first. While the first two steps are conceded to be absolutely essential, I think that the third also cannot be omitted if the work is to be fixed and become a permanent feature in the child's store of knowledge. It is a difficult thing to state in compact and accurate form a rule which states the whole truth without unnecessary verbiage, and therefore it cannot be expected of a child. And yet, the possession of such formulas, principles, rules, or norms of knowledge is of highest importance in intellectual as well as in moral life. Who is not stronger in his moral life if possessed of such fundamental aphorisms as "Honesty is the best policy,"

"To err is human; to forgive, divine," "As ye would that men should do unto you, do ye even so unto them." And is not the same true of intellectual formulas? Rules of grammar, learned after the truths they contain are understood, furnish a guide and are an assurance in the use of language. So, too, rules in arithmetic strengthen the hold of the pupil upon that subject. A rule is a recapitulation, a summary, a complete statement of a process, and Kern says that, "No instruction is complete without a final statement of the whole truth in a compact summary." Such rules thus stored in the child's mind will furnish sure and tried standards of accepted truth, upon which he may draw in the future with certainty and assurance. But it is to be remembered that he must first understand them or they will be of little use.

Arithmetic Must be Practical. — Finally, let it be emphasized that the arithmetic of the school should be closely allied to the affairs of everyday life. Too often the school is quite another realm from that in which the child must exist, and we cannot emphasize too much the truth, "The school is life," so pithily stated by John Dewey. Problems in marketing could be given to very young children, while there is an abundance of material available as they advance. As a concrete illustration, suppose the pupils are studying compound numbers, and a house is being built in the neighborhood of the school. Take the children on the ground and let them follow every step of the process, measuring dimensions and estimating the values of actual materials. How many problems that touch the subject-matter of arithmetic could be evolved!

The excavation of the cellar and the erection of the walls would illustrate cubic measure; the surface of the interior and exterior, the siding, plastering, flooring, roofing, painting, and papering would furnish examples in square measure; there would be abundant use of linear measure, while estimates of cost of material, labor, and supervision would make a great variety of practical problems. Of course, this would take time, but it would awaken a live interest in the pupils, it would make them feel that they were actually doing something, and it would give them about all the arithmetic the ordinary person needs. If such a result can be brought about it is worth while. Problems connected with the farm, the shop, the store, the factory, or the household can easily be originated by both teacher and pupils, thus making arithmetic a vital, interesting, and practical subject.

Because of the importance of the subject of arithmetic, because of the established place it holds in every school whatever else may be dropped from the curriculum, and because of the many erroneous notions as to what topics should be taught, I submit a model course of study for the eight years of the elementary school.[1]

[1] This course of study was prepared by Prof. Frank H. Scobey, professor of mathematics in the New Jersey State Normal School at Trenton. It is the course which he presents to his method classes in arithmetic, and is recognized as a practical and at the same time psychologically and pedagogically sound presentation of the subject. This course is followed in the grades of the Model School connected with the Normal School at Trenton.

A COURSE OF STUDY IN ARITHMETIC

WORK OF THE FIRST SCHOOL YEAR

The development of the number sense in children of the same age varies so much that many schools defer the formal or systematic teaching of number until later. First year work should appeal to the child's interest in doing, i. e., constructing with blocks, designing with splints, grouping and classifying objects. Counting and measuring, which are the real beginning of number, should be the incidental product of these activities.

I. Comparison and Counting

A. Comparison. — Notions of greater than, less than, equality, more than, most, least, etc., should come before counting.

Make this work of interest to children by having them compare blocks, splints, etc., and by constructing with blocks. To illustrate, after the children have built with blocks let them make comparisons such as, "This block is taller than that." "My tower is the highest of all." "My house has more blocks than John's has."

B. Counting. — 1. Counting blocks used in constructions: "There are 4 blocks in my chair." "I have put 6 blocks in my table;" "8 in the tower," etc. 2. Counting pupils in class, seats or desks in room, pictures on walls. 3. Houses on one side of street, boxes in post-office. 4. Balls on abacus by ones, tens, fives, etc., to 100.

II. Notation of Numbers

A. Writing figures to denote number of groups of things counted.

B. Reading numbers under 100. Number of pages in reading books, street numbers of houses, numbers on post-office boxes.

C. Writing and reading numbers which stand for scores in number games.

III. Operations

A. Additions. — Those that grow out of constructions and measurements with blocks, splints, etc. "I used 3 blocks to make the door, and 2 blocks for the steps of my house; 2 blocks and 3 blocks are 5 blocks." "This stick is 3 inches long; I put with it a 2-inch stick and make a stick 5 inches long."

B. Subtractions. — Those similar to additions. "I had 7 blocks in a tower, but I took away 2 blocks and it left 5 blocks in the tower."

IV. Denominate Numbers

Children become acquainted with those related to their experience: inch, square inch, pint, quart, nickel, dime, etc.

WORK OF THE SECOND SCHOOL YEAR

I. Number Space

A. Counting by ones, twos, fives, tens, forward and backward. Counting by hundreds to 1000. Bundles of splints used to give idea of unit ten, unit hundred.

B. Reading and writing numbers to 4 or 5 places. Devices for rapid reading of numbers.

II. Measuring

Work of first year continued and extended.

A. Lines. — 1. Measurement of lengths of objects with inch and foot units. 2. Judging of lengths of objects and measuring to test:

"I think this splint is 6 inches long, etc." 3. Drill on number combinations to 20, using splints, strips of paper, lines on blackboard. Illustrations: (*a*) Children combine splints and describe: "I put a 5-inch stick with a 6-inch stick and have an 11-inch stick." (*b*) Children estimate the length of stick which put with a 9-inch stick will make a 16-inch stick. (*c*) Similar exercises with lines. (*d*) Drawing, with aid of rulers, lines, rectangles of definite dimensions. Measuring perimeters of rectangles.

B. Surfaces. — Measuring rectangles by folding, or dividing into square inches. Describing such forms as follows: "I made an oblong 5 inches long and 2 inches wide, and it contains 10 square inches." Note: This work is limited to small rectangles.

III. Fundamental Facts

A. Review those learned incidentally during the first year, and classify in tables.

B. Finish additions and corresponding subtractions in following arrangement (Tables of 4+ and − 4):—

4+ 1 = 5	5 − 4 = 1
4+ 2 = 6	6 − 4 = 2
4+ 3 = 7	7 − 4 = 3
4+ 4 = 8	8 − 4 = 4
4+ 9 = 13	13 − 4 = 9

C. Vary this arrangement with the more practical form:

Addition. Illustration of Table 4.

1	2	3	4	5	6	7	8	9
4	4	4	4	4	4	4	4	4
5	6	7	8	9	10	11	12	13

Subtraction. Austrian method[1]

5	6	7	8	9	10	11	12	13
4	4	4	4	4	4	4	4	4
1	2	3	4	5	6	7	8	9

D. In teaching facts of addition and subtraction the method should be objective until the children acquire the *power of inference.*

Illustration of the method of inference: — If 4+ 4 = 8, how many are 4+ 4 and 1? How many are 4+ 5? or, If 4+ 5 are 9, how many are 5+ 4?

E. Drill thoroughly on combinations until their recall is automatic.

[1] By the Austrian method is meant the method of adding to the subtrahend to make the minuend instead of the method of "taking from" the minuend.

F. Facts of multiplication and division *begun* in second term. The following arrangement shows proper order of teaching: — Tables of 4:

$1 \times 4 = 4$	$4 \div 4 = 1$
$2 \times 4 = 8$	$8 \div 4 = 2$
$3 \times 4 = 12$	$12 \div 4 = 3$
$9 \times 4 = 36$	$36 \div 4 = 9$

G. Method of teaching should be objective at first. For method by inference, see third year work.

IV. Fractions

Children divide objects, as paper disks and rectangles, into halves, fourths, thirds. In measurement they perceive such relations as $\frac{1}{2}$ as large, $\frac{1}{4}$ as large. They learn to *express* these parts or relations with figures.

V. Denominate Numbers

Those which appeal to experience and which may be taught objectively: (*a*) Pint, quart, gallon. (Relations seen); (*b*) Cent, nickel, dime, dollar; (*c*) Inch, foot, yard; (*d*) Tell *time* by clock, some idea of divisions of time.

VI. Written Arithmetic

A. Addition. — 1. Combinations as shown in III *C.* 2. Additions of two three-place numbers. (*a*) No "carrying." (*b*) Where units order exceeds 9.

B. Subtraction. — Austrian Method. 1. As seen in III *C.* 2. Two three-place numbers involving no "borrowing."

VII. Nature of Problems

Problems (or stories) are related to children's experience and interest, i. e., their toys, purchases, games, handwork, costs of measures of things. The problems should involve numbers which they can use mentally, and in purchases the *actual prices* of things should be used.

WORK OF THE THIRD SCHOOL YEAR

I. Number

A. Drill on additions and subtractions continued. Tables of combinations for increasing facility in addition, e. g:

$4+5=9$	$9+6=15$
$14+5=19$	$19+6=25$
$24+5=29$	$29+6=35$
$94+5=99$	$99+6=105$

Children will learn from these exercises that adding 5 to a number ending in 4 always gives a number ending in 9, etc.

B. Multiplications. — 1. In teaching a new fact based upon preceding fact as, $4\times6+6=5\times6$, or upon preceding primary fact as, If $8\times7=56$, then $7\times8=56$. 2. After necessary drill classify tables as far as 12×12.

C. Divisions (Parallel with Multiplications). — 1. Derive from corresponding multiplication fact, e. g., If $7\times8=56$, then $56\div8=7$. 2. Classify in tables as far as $144\div12=12$. 3. In exact divisions, as

$29\div5=5$ and 4 over
$32\div6=5$ and 2 over.

II. Written Arithmetic (Fundamental processes)

A. Notation and Numeration as far as numbers of six figures.

B. Addition. — Sums of numbers in which results of columns are greater than 9. Difficulties provided for by graded steps.

C. Subtraction. — One or more orders of subtrahend greater than corresponding orders of minuend. (Steps graded.)

D. Multiplication. — 1. Multiplier less than ten. 2. Multiplier of two figures.

E. Short Division. (Steps graded.)

III. Fractions. *Taught Objectively*

Teach in the following order of sets:
First set, halves, fourth, eighths.
Second set, thirds, sixths.

A. Comparisons, e. g., $\frac{1}{4} = \frac{2}{8}$.

B. Additions and Subtractions:

$\frac{1}{2} + \frac{1}{2}$ $\quad$ $\frac{1}{4} + \frac{1}{8}$ $\quad$ $\frac{3}{4} - \frac{1}{2}$

$\frac{1}{2} + \frac{3}{4}$ $\quad$ $\frac{1}{4} + \frac{3}{8}$ $\quad$ $\frac{3}{8} - \frac{1}{4}$

$\frac{1}{4} + \frac{5}{8}$

C. Partitions or fractional parts of numbers:

$\frac{1}{4}$ and $\frac{3}{4}$ of numbers

$\frac{1}{3}$ and $\frac{2}{3}$ of numbers Concrete Problems.

IV. Measurement

A. Folding or dividing rectangles in square inches as described in second year work.

B. Comparing rectangles to determine ratio, as $\frac{1}{3}$, $\frac{1}{4}$ as large, or 2, 3, 4, times as large.

C. Drawing rectangles on paper or board and estimating surface by applying unit of measure.

D. Distances measured in inches, feet, and yards.

E. Denominate Numbers reviewed, adding ounce and pound, quart, peck, dry measure. Show relations.

V. Notation of United States Money and Simple Applications

Purchases and making change.

VI. Roman Notation to 100

VII. Oral and Written Problems of simple character should be associated with the work of each topic. Successful work in problems depends upon keeping them within the children's experience and applying to their interests. Make problems about their manual work, gardens, purchases, possessions. Limited use of text-book for this grade.

WORK OF THE FOURTH SCHOOL YEAR

I. Notation and Numeration

Reading and writing numbers through three periods. Little formal drill is needed in this, as there is constant review in writing and reading numbers corresponding to the arithmetical terms, multiplicand, multiplier, product, dividend, and quotient.

II. Written Arithmetic

A. Thorough drill in four fundamental operations, working for accuracy and rapidity.

B. Increase difficulties for variety, interest, and power. Pupils in this grade will be interested in proving or checking results.

C. Multiplication. 1. Use multipliers of three figures with zero in units' place. 2. Multiplier of three figures with zero in tens' place. Prove products by an interchange of factors.

D. Division. 1. Exercises with divisor of two figures. Divisor where units' figure is small, as 31, 43, 51. 2. Exercises where divisor consists of three figures, but small numbers in units' and tens' place, as 321, 223. 3. Divisors of two figures where more than one trial must be made to find correct quotient, 17, 27, 39. 4. Where cipher appears in quotient. 5. Check or prove division by multiplying divisor and quotient.

III. Fractions

Additions and subtractions with following series:

A. Halves, fourths, eighths, sixteenths.

B. Halves, fourths, sixths, twelfths.

C. Thirds, sixths, ninths, etc.

D. Mixed numbers containing such fractions. (Objects or drawings used when necessary.)

IV. Decimals

A. Review United States money early, that it may be used in drill problems in fundamental processes.

B. Notation and numeration of decimals containing tenths and hundredths.

C. Addition, subtraction of decimals containing tenths and hundredths.

D. Multiplication and division. Multiplicand and dividend containing tenths and hundredths.

Note: Work to be constantly correlated with common fractions having 10 or 100 as denominators.

V. Measurement

A. Linear Measures. — 1. Extend use of long measure to measuring distances in schoolroom and schoolyard. Give idea of miles'

distance between well-known places in city (or locality). 2. Judging of distances in feet or yards and testing estimate. 3. Cost of articles sold by foot or yard.

B. Surface Measures. — 1. Review method of finding number of unit squares in rectangle by multiplying number of unit squares in a row, one unit wide, by number of rows. 2. Find number of square feet in blackboard, schoolroom floor. 3. Ratios of rectangular figures, one dimension common to both, e. g., a rectangle 3 in. long and 2 in. wide is $\frac{3}{4}$ of a rectangle 4 in. long and 2 in. wide.

C. Solid Measure. — 1. By use of unit cubes, pupils build solids of given dimensions, e. g., pupils led to see that a solid 3 inches long, 2 inches wide, one inch high, contains 2 rows of 3 cubic inches. A solid 2 inches high, 3 inches long, 2 inches wide, contains 2 layers of 6 cubic inches. 2. Ratios of solids (blocks) where two dimensions are the same in each. Use prisms and cylinders only in these comparisons. 3. Fractional parts of solids made up of cubic inches.

D. Review and extend use of tables of weights and measures: avoirdupois, liquid and dry measures, United States money, and time measure. Exercises in these, bringing out simple relations between denominations of each table; e. g., pupils, by measurement, see that pint is $\frac{1}{2}$ of quart, $\frac{1}{8}$ of gallon.

VI. Problems

Oral and written problems associated with each of the topics. Formal explanations not required, but pupils encouraged to tell reason for single process in answer to definite question. Problems illustrated by drawings or objects when necessary. Limited use of text-book for this grade.

WORK OF THE FIFTH SCHOOL YEAR

I. Notation and Numeration

A. Numbers through three periods.

B. Numbers containing three decimal places.

II. Frequent Drills in fundamental operations, with proofs and results.

III. FRACTIONS

A. Work outlined for preceding grades reviewed.

B. Addition. — 1. Fractions having small denominators. 2. Mixed numbers, fractions having small denominators.

C. Subtraction. — 1. An integer from a mixed number. 2. A mixed number from a mixed number, the fraction in the subtrahend less than that of minuend. 3. A mixed number from an integer. 4. A mixed number from a mixed number, fraction in subtrahend larger than that in minuend.

D. Multiplication. — Simpler processes developed by divided lines, disks, or rectangles. 1. A fraction by an integer. 2. A mixed number by an integer. 3. An integer by a fraction. 4. An integer by a mixed number. 5. A fraction by a fraction. 6. A mixed number by a mixed number.

E. Division. — Processes developed objectively. 1. A fraction by an integer. 2. An integer by a fraction. 3. An integer by a mixed number. 4. A fraction by a fraction. 5. A mixed number by a mixed number.

IV. DECIMALS

A. Notation and Numeration. Notation based on United States money.

B. Relation of decimal to common fraction whose denominator is 10, 100, or 1000, frequently seen.

C. Fundamental processes. Decimals limited to two, three places. 1. Addition and subtraction. 2. Multiplication and division by integers showing the place of point in product and quotient.

V. MEASUREMENT AND DENOMINATE NUMBERS

A. Square Measure. — Mensuration of squares, rectangles, and right triangles, given base and altitude. 1. Perimeters and areas. Generalizations for these processes reached by folding and cutting of paper, or by drawings. 2. Notation carefully taught.

B. Cubic Measure. — Methods suggested in preceding grades leading to generalization for finding — 1. Lateral surfaces of cubes, and 2. Contents of prisms. NOTE: Incorrect notation should be avoided.

C. Review and practice under tables of practical value.

VI. MECHANICAL DRILL — Oral and written.

A. Short drill every day on fundamental operations or in topics taught to secure accuracy and rapidity.

B. Business Fractions: e. g., finding cost of articles at 50¢ ($\frac{1}{2}$), at 25¢ ($\frac{1}{4}$), $1.50 ($\frac{3}{2}$), etc.

VII. BILLS MADE OUT AND RECEIPTED

The model should have date, name, adress, and business of maker, name and address of debtor. { Actual transactions imagined. Keeping of personal accounts.

VIII. PROBLEMS.

In using problems from text-books eliminate those which are not of practical application. Omit problems that are too difficult for grade. Make problems suited to environment of pupils if they do not appear in text-book. Reasons for operations given, but formal explanations not required.

WORK OF THE SIXTH SCHOOL YEAR

I. COMMON FRACTIONS

A. Addition and subtraction: — Practice in determining common denominators by inspection.

B. Multiplication of fractions. — For cases, see work of Fifth Grade. Use cancellation for abbreviating work. (Cancellation shown as a shorter process.)

C. Division. — See work of Fifth Grade. Use method of inverting divisor.

II. DECIMAL FRACTIONS

A. Notation and Numeration. — To six places. Frequent comparisons with common fractional form. Test knowledge of relative magnitude of decimals; e. g., Which is larger .8 or .7653?

B. Additions and Subtractions. — Decimals containing more than three places.

C. Multiplication. — Multiplier, a decimal or number containing decimal.

D. Division. — Divisor, a decimal or number containing decimal.

NOTE: Use simple exercises in *C* and *D*.

III. PERCENTAGE

A. Drill on following preliminary work: — 1. Find the fractional part of a number; e. g., what is $\frac{2}{3}$ of 21? 2. Find ratio of one number to another given number; e. g., what is the ratio of 14 to 21?

B. Drill on the following per cents and their fraction equivalents: —

100%	75%	$66\frac{2}{3}$%
50	60	$33\frac{1}{3}$
25	70	$12\frac{1}{2}$
20	30	$37\frac{1}{2}$
10	40	$16\frac{2}{3}$
5		

C. Introduce the following cases of percentage showing relation to same cases in fractions: 1. Find the percentage (or part) when base and rate are given; e. g., what is 25% of 24? 2. Find the rate when base and percentage are given; e. g., 6 is what per cent of 24?

IV. SIMPLE INTEREST

A. Nature and purpose illustrated.

B. Interest calculated for years and months, cancellation method, e. g., interest on \$600 at 6% for 3 years and 4 months.

$$\$\cancel{600} \times \frac{\cancel{6}}{\cancel{100}} \times \frac{10}{\cancel{5}} = 120$$

V. MEASUREMENT

A. Denominate Numbers. — 1. Consider only those tables which have a practical application. 2. Reductions descending and ascending (to reasonable limit). 3. Additions and subtractions for drill only.

B. Mensuration. — 1. Perimeters and areas of rectangles and triangles, base and altitude given.

C. Volumes of rectangular prisms.

D. Simple Problems in fencing, painting, paths, frames, plastering, capacity of bins and tanks, and excavations.

NOTE: Pupils are taught the drawing of figures and illustrations to convenient scale.

VI. ROMAN NOTATION REVIEWED AND EXTENDED

VII. CAREFUL SELECTION OF PROBLEMS WITH REFERENCE TO MATURITY OF MINDS OF PUPILS AND PRACTICAL VALUE

Increasing interest in analysis should be expected, but pupils of this grade are more interested in *doing* than *explaining*. Pupils expected to make clear statement of how problem is done.

WORK OF THE SEVENTH SCHOOL YEAR

I. BRIEF REVIEW OF FUNDAMENTAL PROCESSES, FRACTIONS, AND DECIMALS

Proof of processes.

II. REVIEW OF DENOMINATE NUMBERS

Emphasizing fractional and decimal forms. Useful equivalents memorized and applied; e. g., cubic inches in bushel, cubic inches in gallon. Weight of cubic foot of water. Gallon of water, bushel of wheat, corn, etc. in pounds.

III. MEASUREMENT

A. Mensuration of parallelograms, triangles, and trapezoids.

B. Surfaces and contents of rectangular prisms.

C. Ratio of circumference of circle to diameter illustrated and applied.

D. Area of circle shown to be equivalent to a parallelogram whose altitude equals radius, and whose base equals semi-circumference.

E. Problems in plastering, papering, carpeting, excavation of cellars, paving, and flooring. Bricklaying and stonework. Comparison of rules found in text-books with those used by artisans.

IV. PERCENTAGE

A. Review cases taught in sixth grade.

B. Develop: — Find the base when percentage (or part) and rate are given.

V. PROFIT OR LOSS. — Show that these are percentage applications with a difference in names of terms only.

VI. TRADE DISCOUNTS. — Purpose and application illustrated. Discount on bills and accounts.

VII. COMMISSION. — Show how cotton or some product used in home place may be purchased through an *agent*. How manufactured goods are sold through *agent*. Show that commission and percentage are the same, excepting in *names* of terms used. Practical work is mostly confined to one problem. Given base and rate to find commission.

VIII. SIMPLE INTEREST

A. Review of interest leading to formula: $I = p \times t \times r$.

B. Six per cent method explained.

C. Interest tables used.

IX. PROBLEMS. — Pupils in this grade are interested in problems and accounts pertaining to living expenses, home industries, food and clothing, supplies and transportation. More attention to analyses of problems is given in this grade than in preceding ones. Postal Saving Banks explained.

WORK OF THE EIGHTH SCHOOL YEAR

I. BRIEF REVIEW OF FUNDAMENTAL PROCESSES. — Emphasize importance of proving results. Convenient short methods used.

II. BUSINESS ARITHMETIC

A. Percentage and its applications to profit or loss and commission reviewed.

B. Interest reviewed, noting difference between common and exact method.

C. Compound interest (to limited extent). Its use in savings banks. Use of table in solving problems.

D. Promissory Note. — interest and discount. — 1. Under what conditions given? 2. Illustrations of common forms. 3. What is necessary to make them negotiable? 4. Forms of indorsement. 5. Dishonoring a note. 6. Interest and non-interest bearing notes, — (*a*) paid at maturity, (*b*) after maturity, (*c*) before maturity. 7. Protest by notary public. 8. Agency of the bank in paying and discounting notes explained.

E. Partial payments. — The United States rule only (limited to few exercises).

F. Domestic Exchange (optional). — 1. Uses of drafts. 2. Conditions affecting cost of drafts giving rise to premium or discount. 3. Sight and timed rafts. How purchased. 4. Calculation of cost only.

G. Stocks and Bonds. — 1. Formation of stock company simply illustrated by describing organization of one in locality. Charter. 2. Exercises that might arise in connection with this stock company made and solved. 3. How stocks are bought and sold through broker. 4. Some conditions which cause stocks to rise or fall. 5. Distinction between legitimate and illegitimate buying. 6. Use of tables of quotations in newspapers as a source of problems. 7. Description of stock exchange.

III. Ratio and Simple Proportion. — Its identity of proportion with simple equation. Use of x for missing term.

IV. Taxes

A. Direct — the connection between this topic and the support of local government and state explained. Pupils provided with tax bills that show "budget."

B. Duties and Customs. The connection between this topic and the support of government (Federal) illustrated (limited to few exercises).

V. Insurance. — Topic illustrated by cancelled policies. Fire and Life Insurance briefly treated.

VI. Mensuration (Concrete Geometry)

A. Surfaces of plane figures reviewed.

B. Lateral surfaces of solids illustrated and found.

C. Volumes of prism, cylinder, pyramid, cone, and sphere.

VII. Square Root (Limited Use)

A. Process explained.

B. Applications in problems.

VIII. Metric System. — Sufficient study of this system to prepare for work in natural sciences. Actual use of weights and measures.

IX. Problems. — Pupils in this grade will be interested in problems dealing with agriculture, factory conditions, mining, lumbering, transportation, statistics of weather bureau, population, and extent of territory. Cost of heating, lighting, and furnishing a home. Cost of food and clothing for family. In the seventh and eighth grades greater power in analysis should be developed.

X. Literal Arithmetic

A. Change from the decimal to literal notation should be made in exercises in mensuration, in generalizing, in percentage problems, and in interest.

B. The use of x should be made in solving problems where time and aynalsis will be saved. In problems of percentage and proportion its use should be encouraged.

Note: The order stated in above outline is not necessarily the order of presentation.

CHAPTER XV

INSTRUCTION IN PHYSIOLOGY AND HYGIENE

The Duty of the School toward Public Health. — That good health is a public asset is being realized now more than ever before. Therefore the problems of clean streets, public baths, pure water, sanitation, sewage disposal, pure foods, and safeguarding against contagious diseases, are receiving a great deal of attention. As a result the average duration of human life has been extended, and men are enjoying greater comforts, are healthier and happier. Tables of mortality a quarter of a century ago show that more than 40% of the mortality was of children under five years of age. Recent tables show that this terrible death rate has been reduced to 20% of all the deaths. Rowe says, "In Chicago, statistics for 1894 show that one child out of every twenty of five years and younger died during this period. In the next five years the death rate was only one out of every 115, in the succeeding ten years the death rate was one out of every 322."

The people are being educated in matters of health, food, cleanliness, and sanitation, so that many things that were treated with indifference a few years ago would not be tolerated now. Inasmuch as it is so largely a matter of education, the duty of the school becomes apparent.

Most states of the Union have laws requiring instruction in the public school in the effects of alcohol and narcotics upon the human system. There should be equal stress laid upon teaching cleanliness, the nutritive value and nature of foods, and upon general sanitation. Intemperance very often is caused by men being the victims of poor food, badly prepared. The American people are woefully lacking in knowledge of food values and what might be called the harmony of foods. We eat lobster salad, cucumbers, and radishes, washing the whole down with chocolate, and then top off with ice cream and rich cake. Think of the combinations we mix together in our poor, abused stomachs. And then we wonder why most of us are dyspeptic, and why so many die of acute indigestion. We are ignorant of the simplest laws of food combination and are paying for it with chronic dyspepsia, debilitated digestive organs, and consequent anæmia or poverty of blood, and a final breaking down of the nervous system. And it is not the fatal results that are the most serious, but rather the decreased power of resisting disease and the diminished efficiency in the affairs of life that should cause the most concern.

It cannot be the purpose here to treat of the anatomy of the human body or of such topics as belong to a work on physiology. The purpose rather is to present the material that every teacher can teach, and every child should know, with suggestions as to the manner of giving such instruction. Whenever there is efficient medical inspection of the schools it may be expected that the physical well-being of the children will be properly cared for. As yet, however, comparatively

few schools have such inspection. Where it has been introduced, its limitations are such that it cannot be wholly efficient, hence the individual teacher must be interested and informed upon this subject.

1. **Defective Eyesight.** — There are pupils in almost every schoolroom who are afflicted with some defect of vision. Rowe says, "Careful records have been made in cities of our own country and abroad, and it has been estimated that the percentage of poor eyes increases from grade to grade." He thinks that about 20% of the children in the upper grades have some weakness of the eye against 3% of those entering school.

It certainly is the duty of the teacher to discover these defects, to guard against them, and to prevent their increase. At any rate, the teacher must not be a party to the creation of such defects. She should know when there is sufficient light, should see that it comes from the right direction, and should not allow pupils to sit directly facing the sun's rays. She should prevent the use of too fine a print, should see that the ventilation is good, and should jealously guard against unsanitary conditions. Moreover, she should instruct the pupils as to the value of eyesight, and should explain how it is endangered in reading by twilight or other obscure illumination, by forcing the eyes to read when they are tired, through the use of cigarettes, and the reading of fine print.

She should aid them in securing glasses when these are needed. I once observed that a boy in reading held the book very close to his eyes. Indeed, he was so near-sighted that he was compelled to move the book from side to side in reading a line. I visited his

parents and suggested that he should wear glasses. "Why, he is too young to wear glasses; he is only twelve years old!" they exclaimed. And it was with difficulty that I convinced them that the use of glasses was not a question of age. They finally had his eyes examined, and when he secured glasses not only could he read naturally but all his other school work improved. Think of the new and extended world that was opened up to that boy within the new horizon which his glasses made for him. If the child complains of frequent headaches, there is ground for suspicion that there is something wrong with his eyes, and he should be examined by an oculist. Rowe wisely remarks, "Where we are perforce obliged to teach in conditions not ideal, we should be all the more careful to see that every favoring condition possible be given the children and that frequent tests be made to discover causes of visual defects which may be just developing." The teacher should not only give attention to individual cases, but she should also watch all schoolroom conditions, correcting those that are bad and interesting the proper authorities when there are evils to be corrected. The teacher may be assured of the support of parents in a matter of such vital importance to their children if they can only be brought to understand the situation.

2. **Defective Hearing.** — Cases of defective hearing are probably more common than those of defective eyesight. It is pretty well established that fully twenty-five per cent of the pupils in the schools have some defect in hearing in one or both ears. Very often the teacher is unaware of such defects, and oftener still

the child is unaware of it. Indeed, most persons are reluctant to admit that they do not hear well. A teacher reprimanded a boy of sixteen who was decidedly deaf for failing to respond to a command given in a general gymnastic exercise. Reflecting that the boy probably had not heard he apologized in the words, "Edwin, excuse me, I forgot that you are deaf." The boy dropped into his seat and sobbed like a child, and when afterward his teacher told him that he had not meant to hurt his feelings, the boy replied, "I know that you didn't, but I was never before told that I am deaf. I feared it and you have simply confirmed what I feared. I now know that I am really deaf and that is what broke me down." Evidences of poor hearing are found in the strained attitude in listening, in the necessity of repeating questions, in the wrong answers given, in the fatigue shown, and in the failure to progress in the work.

Of course these may not be absolute proofs, for the child may have been inattentive, or may not have comprehended. But repeated acts of the above nature would certainly justify the suspicion that the child had not heard. In such cases he should be subjected to special tests for hearing, many of which are quite within the resources of the teacher. Rowe gives a very simple test which any teacher can make.[1] "Place the child on one side of the room, facing the wall. Have him close one ear and shut the eyes. Take a position a little to the side of the ear to be tested, and by a

[1] Rowe gives excellent and full descriptions of tests both for the eye and the ear in his work, "The Physical Nature of the Child," The Macmillan Co., New York.

slow movement bring a watch from a position five or six feet to one side, toward the ear. The child is to tell you as soon as he hears the ticking. If a special noise arises, wait until the disturbing sound has ceased. Try until the results are consistent." It is important, however, that the teacher shall know what the normal distance is for the particular watch in order to determine whether or not the child's hearing is normal. This can be found by experimenting with the watch upon a person known to possess normal hearing. Simple tests of this kind will be sufficient to detect the most marked cases, those that need especial attention in seating and in instruction.

Rowe further suggests, "As over 90% of the cases can be cured, the parents should be urged to have the child examined by a physician. Many persons have become permanently deaf, or partially so, who might have been easily cured and thus have been spared the affliction, had an intelligent teacher or parent taken the matter in hand in time." As so many parents are ignorant of these matters, there is all the more reason for the teacher to be on her guard.

3. **Contagious Diseases.** — The most common contagious diseases of children are scarlet fever, measles, diphtheria, chicken pox, mumps, whooping-cough, and tuberculosis. The school offers a most dangerous medium for the spread of disease, because the children come from all parts of the community, because they mingle freely within the narrow confines of the schoolroom and the playground, and because of the common use of books and materials. Hence most stringent rules, designed to prevent the spread of disease, should

be followed. These conditions necessitate considerable knowledge of the symptoms of the ordinary diseases of children on the part of the teacher. Of course she cannot be expected to have the expert knowledge of a physician, but she can take measures to safeguard the pupils and the community. The usual and most easily recognized symptoms of many of the children's diseases are headache, flushed face, high temperature, quickened pulse, dull eyes, sore throat, and general lassitude. Sometimes the child is peevish, ill-natured or insubordinate. When satisfied that there is something wrong with the child, the teacher should send him home. Nor is her duty done when the danger is removed from the school. Report should promptly be made to the board of health, the board of education, or some available authority, so that the case may be followed up. Of course the parents should be notified, but in many cases this would not be sufficient, for it is well known that many parents will conceal the presence of a contagious disease in order to escape the inconvenience of quarantine.

If there is a school physician or a school nurse, the matter is very much simplified for the teacher, for they will assume the responsibility. But we have seen that these important factors are still lacking in many schools; therefore the teacher must be prepared to meet emergencies. Precaution also must be taken to prevent children from returning to school until all danger of contagion has been removed. A physician's certificate should be required to determine this. There is no more important duty that the teacher can perform for the public than this one of watching children's health.

4. **Food and Eating.** — What better preparation for life in a real and practical sense can a man or a woman have than a knowledge of foods, their preparation, their nutritive value, and their adaptability for easy digestion and absorption. I have already shown how ignorant we are upon this matter and pointed out the evil consequences that grow out of that ignorance. Instruction concerning foods is an essential part of the German school course. A teacher in Leipsic had before him a class of six-year-old boys. The subject was bread. The teacher discussed the kinds of bread, pointed out their nutritive values, and explained how they should be eaten. "How old must bread (*Schwarzbrod*) be when eaten?" was asked. "Twenty-four hours old at least," was the answer of the children. Hot-breads have no place in the German diet. Stomach diseases are rare among that people. Is there not an evident connection between these two facts? The children were taught to eat slowly, to masticate well, and not to drink during the meal as a means of hastening the swallowing. Overton says,[1] "A whole train of evils follows intemperate eating. When food is swallowed in large lumps instead of being masticated to a thin gruel, too little saliva is mixed with it. It reaches the stomach too dry, and so a large amount of gastric juice is needed. But the saliva is the natural stimulant to the flow of juice, and if it is small in amount, the gastric juice does not flow in sufficient quantity, and food is not well digested." He further adds, "A glass of ice water may remain perceptibly cold in the stomach for from one-quarter to one-half

[1] "Applied Physiology."

an hour, and its effects upon the movements of digestion may last much longer." It has been said that more people suffer from overeating than from eating too little.

The following rules for eating are suggested: "Chew a mouthful to paste and swallow it before taking another." "Stop as soon as the taste of plain food begins to fail." "Allow four or five hours to elapse before eating again." Added suggestions by Overton are worthy of consideration:

"1. Eating food for mere pleasure is intemperance.

2. Eating too much, too rapidly, or too often is intemperance.

3. As a result of intemperate eating, acid fermentation often occurs in the stomach, producing discomfort and sickness.

4. Hunger indicates the need of food, and taste indicates the kind.

5. When only plain food is eaten, these two signs are correct guides in eating."

5. **Temperance Instruction.** — Whether or not alcohol is a food is a disputed point. That it is a great danger and is often an evil to the human race is not disputed. Although it is not practicable to enter upon a scientific discussion of alcohol with children in the public school, it is clear that the evils and dangers connected with its use as a beverage can and should be pointed out in language that they can understand.

Such instruction is within the province of the school from both a physical and a moral standpoint, and it is its duty as well to inform the pupils as to the effect of strong drink upon the human system and as to the

danger of forming the drink habit. While little good may be done from a scientific treatment of alcohol with children, there are certain lessons that may effectively be taught. These are:

1. Alcohol is a poison that often attacks the nerve centers, affects the brain, undermines the constitution, and makes a wreck of men.

2. It is apt to destroy the will power, making its victim incapable of continued successful and useful occupation.

3. It incapacitates for work, thus compelling employers of labor to reject persons who drink.

4. It often robs a man of ambition, making him useless to society and often a burden upon it.

5. Its continued use develops an evil habit that makes a man a slave, and which is very difficult to break.

6. It destroys the moral sense, often making the father cruel to his family and indifferent to the most sacred obligations.

7. It often leads to crime, as a large proportion of the inmates of prisons trace their downfall directly or indirectly to the influence of strong drink.

8. Experiments show that even if taken in small quantities it diminishes the efficiency, destroys the power of sustained effort, lessens the ability to resist disease, degrades the moral sense, and shortens life.

9. It is a great danger, claiming many victims every year, destroying homes, and debasing, making weak, incapable, and often worthless the unfortunate who have been caught in its toils.

Surely if the school is to prepare children for com-

plete living, for efficiency, if it is to give them the ability to adjust themselves to life, it if is to bring out the best that is in them in order to make them masterful in their environment, it must teach them concerning the effect and danger of strong drink. Discussions of lessons like the above will have a greater influence upon the temperance of future men and women than a purely academic treatment of the nature of alcohol, a study of the anatomy of the human body, or even an exhibition of pictures of the stomach diseased by alcohol. Temperance instruction in the public schools, which has been carried on for the past quarter of a century has not done so much to check the drink-evil as was prophesied and devoutly hoped for. This, too, in spite of the fact that no class of people in the United States more strongly inculcates temperance, both in theory and practice, than the more than half a million school teachers.

Temperance text-books have been placed in their hands, and these they have faithfully attempted to follow, but as emphasis in these books has been put upon the scientific phase of the question, rather than upon the moral and practical side, it has been difficult to interest the children in the subject. A discussion of such topics as have just been outlined would be interesting, would find abundant illustrations, and would be real temperance instruction. The scientific study of alcohol belongs to maturer students who can utilize the laboratory.

6. **Dangers of Narcotics.** — Most boys at some period of their lives, usually at about twelve to fourteen years of age, get a notion to smoke. Stringent laws against

the sale of cigarettes to young boys have failed in their purpose. Boys think it is smart or manly to use tobacco. They see other boys of their age doing it; they are at an age when they crave something new; they have a desire to imitate others, especially older boys. They are therefore willing to undergo a painful apprenticeship in order to acquire the ability to use tobacco. No one can understand this desire and this heroism unless that one has been a boy. The approach to this question should be radically different from the approach to the drink question, and here is where many teachers have made a mistake. In a sense, narcotics and drink belong in the same class. Both, so far as the child is concerned, form habits hard to break, lower moral standards, undermine the health, prevent growth, and weaken the intellect. But to put the two on the same basis defeats all legitimate efforts to restrain boys from the use of tobacco. The use of strong drink, if not an evil in itself, is a great danger to the individual, and often affects many others. With most adults tobacco is not an evil, for it affects neither their health nor their moral life. If it is detrimental to the health, no man has a right to use it any more than he has a right to eat any kind of food that is detrimental. There is just as much sin in the one case as in the other and no more. But with growing children tobacco affects the brain, the heart, the lungs, the sight, the smell, the voice, and the nerves. It attacks the nerve centers, causing weakness of memory, and it prevents physical growth. The term "cigarette fiend" unfortunately is so well known and finds such frequent illustration in the boys and young men about

our towns, that it needs no description. Too much cannot be done against this evil.

I have said that there is a difference to be made in combating the drink and the tobacco evil. The former is a danger to all; the latter is a danger to children, but not necessarily a danger to adults.

It is of no use to tell the boy that smoking is a sin. He will not believe it, for perhaps his father and many other men who have his confidence smoke, and the teacher has no right to destroy that confidence. A gentleman who has three sons took each of his boys, when they had reached the age at which most boys want to experiment with tobacco, and talked to them after this manner: "Charles, I would rather you would not smoke until you have reached your growth. Tobacco is bad for growing boys. When you have become a man, you can do as you please." He also gave examples of the bad effects of tobacco among boys they knew. He made no apology for his own habit of smoking, for there was none to make, and his boys did not expect any. None of his boys smoked, and two of them have completed college without acquiring the habit. Another gentleman followed the practice of giving boys in whom he was interested twenty-five dollars upon reaching their majority if they had abstained from tobacco. If they chose to take it up after that, it did not disturb him in the least, for they had passed the point of danger from its use.

To repeat, then, and to summarize in a word, the attitude that the teacher or the parent should take in regard to narcotics is that their use is bad for the physical growth of the young. Abundant examples of the truth

of this can be found in every school and every community. On the other hand, the use of strong drink is a danger and an evil to people of all ages, old as well as young. Such distinction will be likely to make the instruction in both far more effective than it is when both alike are classed as evils. By frequent talks, by the use of concrete illustrations, the teacher can do much to inculcate real temperance; far more, indeed, than is being accomplished by following the courses marked out in works on temperance physiology. It seems to me that this is the proper method to pursue, not only with alcohol, but also with the other topics that fall under the head of physiology and hygiene. The teacher should possess a handbook on physiology and hygiene, for personal use, in which details which cannot be presented in a book of this kind are treated. It is the duty of the school to take the lead in these matters, for they affect the well-being not alone of the pupils but also of the people of the community in general. Hence teachers must be intelligent, informed, and interested in this question. Many of these things cannot be specified in a course of study. But if the teacher is impressed with her duty and responsibility in these matters, and is active in promulgating such lessons, she may be a great blessing to the people whom she serves. In a later chapter I shall discuss more fully foods and other topics connected with health and hygiene.

CHAPTER XVI

THE IMPORTANCE OF MANUAL TRAINING

The Change in Industrial Conditions. — There is unrest in the public mind with reference to the product of our schools. This shows itself in the press, in magazine articles, in platform discussions, and in the direct criticisms of parents. That this criticism is not always just has already been shown, but the most thoughtful educators recognize that the schools have not fully kept apace with the demands of the times. Teachers who understand the problem of education and the new and increased burdens laid upon the school are earnestly seeking to correct mistakes, and to give the youth of our land those things which will best prepare them to cope successfully with the problems which our new and strenuous civilization presents.

More than a quarter of a century ago, Dr. James McAlister prophetically said, "I am fully persuaded, therefore, that some radical changes will have to be made in the character of our public education. I must repeat again that these changes do not mean the extinction of the classical system. The demand is simply that the primary schools shall be made to conform to the existing necessities of the people, and, side by side with higher institutions of learning, there shall be established schools where the sciences, in their relations to the arts and industries, shall be made specific

branches of instruction and training." This pioneer appeal has not been without effect, as is evidenced by the introduction of manual training very generally as a part of the curriculum of the elementary schools, by the founding of manual training high schools, and by the establishment of many industrial schools.

We say that modern life has injected many new problems into the work of education. Under former conditions the child had plenty of manual exercise. A large proportion of the people lived in the country and gained their livelihood with their hands. The boy made his own playthings — his sled, his water-wheel, his top, and his bow and arrows. He knew the use of tools and early became acquainted with the many requirements of farm and country life. His intimate acquaintance with animals awakened broad sympathies for the weak and taught him responsibility to dependent creatures. It thus developed his life and character and opened to him a knowledge never to be gained from the books. His experiences made him resourceful, inventive, originative, industrious, and economical. They formed for him a sturdy frame, taught him to accept responsibility and faithfully discharge it, and gave him a true estimate of life. What wonder that the farm has produced more than its proportion of the great men of the country, — the leaders not only in husbandry, but also in the fields of industry, commerce, and business, in the arena of political life, and in the great professions.

"The perfectly educated man," says Dr. McAlister, "is he whose facile hand follows obediently the clear and ready promptings of a well-disciplined brain. The

hand is the most marvelous instrument in the world; it is the necessary complement of the mind in dealing with matter in all its varied forms. It is the hand that rounded Peter's dome; it is the hand that carved those statues in marble and bronze, that painted those pictures in palace and church which we travel into distant lands to admire; it is the hand that builds the ships which sail the seas, laden with the commerce of the world; it is the hand that constructs the machinery which moves the busy industries of this age of steam; it is the hand that enables the mind to realize in a thousand ways its highest imaginings, its profoundest reasonings, its most practical inventions. . . . Why should not an organ which forms so vital a part of man's being receive a due share of attention in preparing him for the duties and responsibilities of citizenship?"

Definition of Manual Training. — The need of manual training is quite generally recognized, but there is still much haziness as to what is meant by the term. It has been defined by some as the acquirement of mere dexterity. According to this view penmanship, handling the knife and fork in eating, dressing one's self, playing games, a thousand and one other activities, are manual training. Surely manual training must mean something more than the mere gaining of control of the hand. *The purpose of manual training is to develop the motor activities, to furnish the child with a knowledge of the materials he is to use, to teach him the processes of construction, and to give him dexterity in the use of tools and in manipulating materials.* Skilful use of the hand is not sufficient; there must be added

a knowledge of material. We are daily called upon to judge the value of material things, — of woods in the furniture we buy, in the houses we build, in the implements we construct; of metals in our tools, our machinery, our edifices; of the earth itself in its soils, its rocks, its clay materials, and its sand. Ability correctly to judge enables us to appreciate the adaptability and value of things in meeting the purposes for which they are intended. Thus manual training involves knowledge as well as dexterity.

"Manual training," says Dr. McAlister, "aims at general results. Its purpose is to develop human beings on the executive side of their nature as well as the receptive. Its aim is to equip a boy so that when he gets into the world he will be able to *do* as well as to *think*. . . . It seeks to train the hand and the eye, not for the purpose of superseding the action of the mind, but as the efficient agents of the mind in gaining a truer and ampler knowledge of the world." In training the motor activities the brain is stimulated and the powers of the body are brought to obey the mandates of the will. It therefore belongs to the curriculum of the common school, which seeks to develop the whole child, as truly as arithmetic, geography, history, or reading belong to it. Parents do not always understand this educational purpose. "Please excuse my son from the manual training class," wrote an intelligent father to a school principal. "I do not expect him to be a mechanic and therefore prefer that he take something useful." It must be insisted that manual training is not for the purpose of making carpenters, masons, blacksmiths, or prepar-

ing for any specific vocation or trade. It is designed for the student of the humanities as well as for the student who may devote himself to the field of force and matter. Graduates of manual training high schools who enter the university prove this very conclusively by the way they sustain themselves, even in the classical studies. They generally hold their own with the best in their classes, showing that the claim that "hand instruction, no matter of what kind, if adapted to the age of the pupil and properly conducted, can be made disciplinary and a valuable adjunct to primary literary studies; and that a proper amount of hand study can be introduced into our public schools without impairing the educational value of the studies now taught" is well founded. A moment's reflection will show that the lessons taught by manual training are really of more practical utility to most people than those of any other subject of the common school curriculum, with the single exception of reading. Knowledge of materials, dexterity in the use of tools, and familiarity with the processes of construction are called into requisition in the manifold duties of everyday life and therefore are of the greatest practical account.

Industrial vs. Manual Training. — Another source of confusion is found in the failure to distinguish between manual and industrial training. I have shown that manual training involves the development of the motor activities, the acquirement of skill and dexterity in the use of tools, the mastery of processes of construction, and a knowledge of materials, and that it is purely educational. Industrial training,

on the other hand, seeks to prepare the youth to earn his living by means of the manual and industrial arts. Manual training is necessary for a general preparation for life, giving a mastery over environment, and it is as valuable to the man who may choose a sedentary career as to the man who may enter the shop or the factory. Industrial training definitely lays the foundation for a career in the fields of commerce, engineering, manufacturing, and other industrial enterprises. While it lays the foundation for these occupations, it does not specifically teach a trade. It shows the underlying principles of industry, gives a certain amount of skill in their application, and thus prepares the student, not only to choose his vocation with intelligence, but also to enter upon it with increased probability of success. Manual training is designed for every child purely as an educational means: industrial training is designed for those who intend to enter those vocations involving the utilization of force and matter, the industries. Of course industrial training is also educational, but its specific purpose is limited to one field rather than to broad, general culture.

Now the trade school also has its field, and this, certainly, is neither that of manual nor that of industrial training. It aims to prepare for some definite trade, as carpentry, bricklaying, molding, plumbing, dressmaking, etc., particularly some occupation employing the hands.

To distinguish clearly among these three kinds of schools we would say in a word:

1. *Manual training* utilizes, guides, and emphasizes

the dynamic forces of the child and gives him a knowledge of his material environment.

2. *The industrial school* teaches the pupil the foundations of technical industry and trains him to apply them.

3. *The trade school* prepares for some particular mechanical trade. Professor Woodward says, "So long as the student gives his mind to an exercise or process, it is educational. His muscles respond to his will, and the nerve-centers of his brain are active with excitement." And Dr. Balliet adds, "But after these muscular movements become automatic by practice, the brain relegates them almost wholly to the spinal cord. Such movements cease to be of educational value when they are no longer directed consciously by the brain. Any process in manual training ought to stop when it ceases to be brain work. Here we have the difference between the manual training school and the trade school. The manual training school stops when the point mentioned is reached. Its purpose is purely educational. The trade school continues the training in skill even after the process is relegated to the spinal cord, in order that the person may develop the power of producing in a given length of time for the market as large a quantity as possible of goods of a high grade of finish. Its purpose is economic." "The object of manual training," further remarks Professor Woodward, "is mastery, — mastery of the external world, mastery of tools, mastery of materials, mastery of processes." Technical drawing, designing, architecture, commercial activities, engineering, and mechanics belong to the field of industrial

training. Carpentry, plumbing, dressmaking, and tailoring belong to the trade school.

I have discussed these three schools at length because there is so much mistiness in regard to them, and because it is of greatest importance that the teacher should have clearly set before him just the problem he is to meet. We may now devote our attention to the single question of manual training.

The Aim of Manual Training. — In a report of a commission on Industrial and Technical Education to the Massachusetts legislature, the following suggestions are made: "There is no doubt that manual training develops the intellect, fosters morals, quickens the perceptions, and stimulates and makes accurate the powers of observation. Often school subjects do the same, each in its own way, and all in a general way. A general statement of this character therefore does not suffice in discussing the purpose of manual training. First of all its aim is the training of the hand to obey the will. It calls for dynamic, for active, employment in contradistinction to the static or passive scheme of education.

"Second, it trains the eye to see accurately and furnishes knowledge of materials. In the selection and manipulation of materials employed in his work the pupil gains a knowledge of them, the eye becomes accustomed to examine joints, angles, and curves in the pieces constructed; the sense of proportion and beauty, as well as fitness, is cultivated; and a mastery of details of objects about him is gained. Such acquirements are of inestimable value, not only from an educational standpoint, but also for their practical

utility. They furnish an excellent equipment for knowing the intrinsic value of articles for use either in the home or in business relations.

"Third, such training is also essential to a complete development of the brain."

Other eminent authorities substantiate the same view. Dr. Eliot asserts, "Manual training not only trains the eye and hand, but develops the habit of accuracy and thoroughness in every kind of work. It develops the mental faculties of some boys better than books do"; and Dr. Hall adds, "No kind of education so demonstrably develops the brain as hand training." In considering the mental value of manual training, Professor Woodward says, "It runs into every exercise the student has in mathematics, in language, in literature, in science, in ethics, and in art."

The Place of Manual Training. — Some writers, like Dewey, James, Hall, Wundt, and Baldwin, teach that "the child's thought is never dissociated from his muscles; that every idea has a motor aspect; that mind is in one sense a middle term between the senses and the muscles; that an idea is not complete until it is realized in action." If this be true, manual training should be introduced very early into the school course. It is well known that the young child loves to make things, and if he is furnished with tools and materials he will gladly spend a large part of his time in constructing various objects. With blocks he will build, with paper and scissors he will cut out many forms, with tools and boards he will make boxes or houses, and with sand he will mold. Of course his product will be crude, but he is doing something him-

self, he is learning to use tools, he is getting acquainted with materials, he is satisfying a natural instinct. Little attention should be given to technique at the outset. Indeed, technique is "best acquired in connection with a mastery of the content which is to be expressed by means of it," as modern teachers of music, drawing, and penmanship have discovered. For example, the child is allowed to express thought in writing while his penmanship is still crude; the pupil in music is not held to practice of the scales without securing some relief in playing music that appeals to him; the drawing teacher, while not unmindful of technical work, introduces objects of interest to draw.

It is the customary practice to introduce manual training in the late grammar and high school grades. If it be true that "an idea is not complete until it is realized in action," that the dynamic is the strong feature of the young child's education, does it not follow that some form of manual training should be introduced into the primary grades? Who has not noticed that children, even in their early school years, are eager to construct, to handle tools? Give a boy a box of tools when he is ten years old and he will find employment for many hours. He will make his playthings, he will construct houses and boats and other things that interest him. The chances are, unless he has a strong mechanical tendency, that by the time he is fifteen or sixteen years old his interest in tools will have disappeared. Therefore it seems to me that Professor O'Shea is right when he says, "With the progress of the child through the schools, manual training as a form of motor activity should occupy a

less and less important place, except for those pupils whose wills in maturity are to be manifested primarily in energizing and coördinating muscular action." And further he adds, "This does not mean, however, that manual training should be entirely abandoned; it means simply that in the higher departments of education it is to receive less and less emphasis, except for those whose work involves continued use of hand rather than of head primarily."

A neighbor just back of me has three boys whose activities it is very interesting to watch. For years there were few waking hours when they were out of school that one could not hear the sound of hammer, saw, or other tool in the hands of these young fellows. Now they are well along in their teens and one rarely hears the noise of tools, — their activities are turned in other directions. I think that almost every man, if he will reflect as to his own boyhood experience, will recall that he had a strong instinct for making things in his early youth which diminished and possibly disappeared in his later boyhood.

Another reason for emphasizing manual training in these earlier years is that it is preëminently the period of character-formation. The child's character should be pretty well established by the time he reaches the high school. Professor James wisely remarks concerning laboratory and shop work, "They engender a habit of observation, a knowledge of the difference between accuracy and vagueness. . . . They confer precision; because if you are doing a thing you must do it definitely right or definitely wrong. They give honesty; for when you express yourself by making things, and

not by using words, it becomes impossible to dissimulate your vagueness or ignorance by ambiguity. They beget a habit of self-reliance; they keep the interest and attention always cheerfully engaged, and reduce the teacher's disciplinary function to a minimum." These things surely are the fundamentals of character, and anything that fosters them should have a large place at this particular period of the child's life. The truth is that the judgment of the philosopher and the psychologist is amply sustained in every school in which manual training has been introduced; incorrigible children become tractable and obedient, and many are reformed and saved by this means. But they should be given this form of instruction in the early adolescent years or previous to them before they can become confirmed in evil ways.

Methods and Topics in Manual Training. — The method of manual training, from the very nature of the subject, suggests itself. The child must do the things himself; there is no other way and no one would think of teaching this subject in any other way. I shall therefore suggest the things to be attempted, without outlining any systematic course of study. That must be determined by the facilities available, by the teachers at command, and by the peculiar demands of each locality. There are certain fundamental activities, however, that should be introduced in every school system. Some argue under the Culture Epoch Theory that the child must be taken through all the steps the human race has passed through in its evolutionary development. We certainly agree with Professor Woodward when he says,

"Manual training which is approached from the culture epoch or evolutionary standpoint is unpedagogical, because it attempts that which is psychologically impossible. It is not in accordance with the child's way of approach. It does not minister to the child's most common and imperative needs." A child likes to do what his playmates do. Imagine a father attempting to show his boy the way baseball was played half a century ago. Again, it would not interest the boy in the least that primitive men played ball in a much simpler way. How is the game played now? How do his comrades play? How is he to get the knowledge and skill that will secure him a place on the team? These are the questions that will interest every boy, and it is utter foolishness to put him through obsolete practices.

The child employs "short cuts" in his development whenever he can, just as a man does in his undertakings. The age of the spinning-wheel and the hand-loom is gone forever. Machinery has revolutionized the trades and occupations of men and introduced new ideas and relations. The best thing the school can do is to fit the child into his present environment, and to do this there is plenty of suitable and interesting material.

This does not mean that mat-weaving, basketry, and other primitive arts may not be employed in the instruction of young children. They love to do this work, and for a time it has an educational value. The protest is against a systematic course in manual training which seeks to carry the child through the slow processes of industrial development that the world

has gone through in the ages of the past. The child inevitably tires of it, as experience has proven, because it is unnatural, unpsychological, and has no practical value.

It is urged that not only does the school "prepare for life," but that "the school is life." Life is real, not imaginary, and there is an abundance of live material to offer the pupils which will meet their educational needs. Manual training from its very nature, from the activities it stimulates, from the practical, everyday things it deals with, furnishes the means for meeting this utilitarian demand. With these general suggestions as an introduction, we may outline the work in manual training that should be given in the elementary school. I may repeat that no attempt is made to present a systematic course of study, but rather to indicate the subjects to be taught, inasmuch as the arrangement of courses must depend upon the facilities and needs of each school.

1. *Basketry, clay-modeling, etc.* — Paper-cutting, weaving, basketry, and clay-modeling are suited to the needs of young children and are begun in the kindergarten and primary grades. They represent the cruder forms of manual training, do not call for the finished product, and therefore are suited to young children. They furnish interesting occupation and at the same time begin the development of the motor-activities, a development which becomes more and more systematic as the children gain control of the hand. So little apparatus is required that this work can be introduced into any school, no matter how limited the facilities. Clay-modeling is always interesting to chil-

dren who love to play with "dirt." To appreciate this natural instinct, one has only to observe children at the seashore who will busy themselves for hours playing in the sand. The authorities of German cities always set apart a portion of the public parks for children, in which sand piles are furnished, and some American cities have adopted the same idea. Clay-modeling is a most useful exercise and is entirely feasible in every primary school. I have seen some excellent work produced in rural schools with very scanty equipment. Various kinds of fruit and vegetables, tools and other objects of interest were modeled, thus developing both the practical and the æsthetic sense.

2. *Drawing and design.* — Every young child loves to draw. There is a sense in which drawing and penmanship are alike, since both fall within the scope of general educational purpose. All elementary schools teach this kind of drawing. But when drawing is employed more technically, in so far as it seeks to develop the visual perceptions and give the hand skill in manipulating, and when it is used in designing and making working-drawings from which models and objects are constructed, it may clearly be considered as belonging to the field of manual training. Indeed, it is one of the most important adjuncts of training in the shop, not only as a means of expression, but also of originating, designing, clearly marking out, and making models of the work to be done. This, too, can be introduced at little expense, the one point being that it requires a teacher trained in this special field.

3. *Wood-working and metal-working.* — In this con-

nection the estimates of quantities, value, and uses of various kinds of woods and metals are learned, the ability properly to turn them into more or less finished articles acquired, the dexterity in the use of tools secured, and a considerable knowledge of materials obtained. For, as we have seen, manual training must not only give dexterity of hand, but also must cultivate the judgment, must stimulate activity of the mind, must furnish that knowledge which gives mastery over environment.

In the necessary employment of measurements, in the selecting, comparing, adapting, and utilizing of materials, in the coöperation of eye, hand, and mind, the judgment and reasoning, as well as the observing powers, will receive the very best training. There are no other subjects in the school course so well adapted to give this important and necessary training. The equipment in this work is necessarily expensive, and in many schools prohibitive, but some of the simpler forms can be introduced into every school at very small expense.

4. *Working in brass and copper.* — The more advanced pupils may be given sheet-brass and copper work in which more finished articles are made after original designs. Etching, polishing, buffing, etc., may be introduced when pupils possess sufficient strength and maturity of body and mind, have attained some degree of facility in the use of tools, and are capable of sustained and patient perseverance. Articles of beauty and utility can thus be made. Carving and bookbinding are sometimes added when a taste for the work is evident.

The limit of the amount of manual training given will depend upon the time that can be devoted to it, the equipment available, the materials furnished, the needs of each class of pupils, and upon the occupations that chiefly employ the people of the community. For while manual training is purely educational in its intent, and therefore is essential to the development of all children, there is no reason why it may not be so directed as to have a great bearing upon the future occupations of many of the pupils in any given community.

CHAPTER XVII

TRAINING IN THE HOUSEHOLD ARTS

The Increasing Duties of the School. — In the old-time home the girl learned from her mother the art of housekeeping. Unfortunately the entire work of education of girls as well as boys is being forced upon the school, and many lessons which ought to be learned in the home and which can better be learned there than elsewhere, must now be taught in the school or they never will be learned. It is true that woman is called to multifarious outside activities, — social, religious, commercial, and political, — such as were not within her sphere in former times and which absorb a large part of her life. The great changes in modern civilization have given woman an enlarged place in the affairs of human life, have in the best sense emancipated and given her a place that justly belongs to her and which she is admirably fitted to fill. No one would check this movement, even if it were possible, for it makes for a better civilization and is an evidence of progress. The highest test of civilization in any people is found in their esteem for women.

But while fully recognizing woman's new sphere, and while according to her the right and duty to participate in such activities as tend to broaden her own life, and in such interests as utilize her capabilities for the advancement of every good cause, one can but

deplore her tendency to neglect the domestic arts. For, after all, the highest and noblest function of woman is as the "Queen of the Home," training her boys and girls in the practical duties of life, inspiring them with noble ideals, and making the home the most beautiful place on earth to all its inmates.

A large part of our girls are growing up ignorant of those domestic arts which are essential to the happiness and well-being of the home. School work absorbs the time of girls so completely that there is little time left for the homely and necessary duties of the household. The right of the school so to monopolize the child's time and strength may seriously be questioned. But it is the office of the school to teach everything that is necessary for practical life, and to supply as far as may be the instruction that other agencies of education often neglect. Hence the school is obliged to teach domestic science. It may also be suggested that even where attention is paid in the home to this side of a girl's education, very often the mother is lacking in the knowledge, skill, and patience to give suitable instruction in domestic arts. Few housewives are acquainted with scientific methods of cooking, with the nutritive value of foodstuffs, or with real household economy. Here is an open field therefore for the school.

There should be courses showing the nature, nutritive value, suitability, and preparation, of foods; courses in the hygienic and sanitary features of the household together with some knowledge of how to treat the common diseases; in the choice, making, and care of clothing; in the care of children; and in such other

duties as arise in a well-regulated home. This field offers suitable and interesting employment for girls, while boys are given other forms of manual training. Let the school and the home work hand in hand, the former teaching the scientific facts and the methods which further progress, while the latter supplements this instruction by actual practice, such as is not possible in the limited time and means at the command of the school.

What is Domestic Science? — Domestic science means more than the mere art of cooking. It has to do with all matters connected with physical well-being, such as sanitation or cleanliness, the nature, use, and nutritive value of foods, the art of marketing, etc., as well as with cooking. Home economy, however, is a broader term in that it includes all sides of the home and its management. The home is not merely a place in which to eat and sleep. But it is a place in which gather all the sacred and sympathetic influences of those closely related by the ties of blood and kinship,— of husband and wife, of parents and children, of brothers and sisters. Here it is that children are born and reared; where the struggles of existence are shared; where mutual love and forbearance lighten the sorrows that must come; where the infinite patience and sacrifice of parents indelibly fix in the memory incidents ever to be cherished and held sacred; where the children, if fortunately there be a number, learn lessons of unselfishness, of forgiveness, of mutual confidence, of never-failing love for each other, and of broader sympathy for all humanity. No matter where it is located, no matter whether it is a cottage or a palace,

whether lowly or exalted, it is *home* and therefore it is ever dear.

We may roam over the world; we may go to the seashore or to the mountains; we may sit at tables loaded with luxuries in the finest hotels; we may mingle with the gay multitudes; but the real luxury, the real joy, the real comfort, the real happiness, is experienced when we come back again to our own home. Unhappy the man or woman who has no home or who fails to appreciate its full meaning.

A knowledge of home economics is far more important in making the place where we live a real home than many realize. Not only must there be mutual sympathy among its inmates, but there must be a knowledge of those things which make for comfort and health and also a practical use of that knowledge. Many a man goes to the bright and cheery saloon, not because he craves drink, but because his home is wanting in the elements above pictured. Many a boy or girl goes upon the street or to questionable resorts at night because the place where they live is not home. A mother of nine children, four boys and five girls, used to say in the evening when the boys began to be uneasy and the street began to lure them, "Girls, entertain your brothers." There was no trouble to keep them in, because the amusements that interested young people were allowed and there was real home life. There are influences that touch the spirit, which of course are primarily essential, but those that touch the physical also must not be ignored.

Our grandmothers carded the wool or the flax, spun

it into yarn, wove it into cloth, and finally made it into garments for the family. The wonderful development of machinery has changed all this. The raw material is sold and the finished product is purchased ready for use. So, too, the housewife is no longer required to care for the milk, to churn it and make it into butter, but the milk is sold to the creamery and thus the heavy labor is escaped. This by no means indicates that she can escape the responsibilities of the home. New duties are thrust upon her by the complicated requirements of modern civilization. She must know how to manage servants, to rear and care for her children, to direct the economies of the household — in a word, she must be a helpmate to her husband, thus contributing as much as he does, if not more, to the prosperity of the family through her administration of the internal affairs of the home.

If the school can aid in a preparation for such efficiency it certainly will do an important service. It must teach the girls who will have charge of the homes of tomorrow those things which will make the management of those homes not only an intelligible but an interesting task. If we can implant in the schoolgirls of today the knowledge of how to care for the home and the love of the work necessary to make that home a success, we shall have solved a great problem.

And women are learning this lesson. In a little work on "Home Economics"[1] we read: "It is not, perhaps, too much to say that much of woman's early work in chemistry was a more or less indefinite playing

[1] Bevier and Usher.

with test-tubes in which one of three results was expected — a beautiful color, a bad odor, or an explosion. She was not long in discovering that her brother took chemistry and bacteriology, not because someone had told him that it ought to form a part of a liberal education, but because he expected to use this knowledge later in his work with soil or in the dairy. Women were thus helped to see that there was a field of applied science for women as well as for men. They realized later that the laws of heat could be illustrated by the kitchen-range quite as adequately as by the steam-engine, that the life history of bacteria could be studied in many household processes, and the chemistry of food was in many cases better suited to their needs than that of stories under the title 'determinative mineralogy.'"

Quoting further from this book, "When young ladies are taught the construction of their own bodies, and all the causes in domestic life which tend to weaken the constitution; when they are taught rightly to appreciate and learn the most beneficent and economical modes of performing all family duties, and of employing time and money; and when they perceive the time estimate accorded to those things by teachers and friends, the grand cause of this evil (that of despising domestic arts) will be removed. Women will be trained to secure, as of first importance, strong and healthy constitutions, and all those rules of thrift and economy that will make domestic duty easy and pleasant."

The Sixth Annual Lake Placid Conference.—This conference on home economics adopted Mrs. Ellen H.

Richards's ideals, for which home economics stands as follows: —

1. "The ideal home life for today unhampered by the traditions of the past.

2. "The utilization of all the resources of modern science to improve the home life.

3. "The freedom of the home from the dominance of things and their due subordination to ideals.

4. "The simplicity in material surroundings which will most free the spirit for the more important and permanent interests of the home and of society."

The Scope of Home Economy. — It would be impossible within the limits of this book to outline a course in home economy. The purpose here is rather to awaken an interest in this subject and show its supreme importance to the well-being, success, and happiness of the American people. If the view taken is correct it certainly is deserving of a place in our schools. For details of the work the reader must obtain a text-book on the subject.

We may, however, briefly discuss some of the most important features to be considered: —

1. *Foods.* — Many foods can now be purchased in a condition wholly or partially prepared for the table. We have breakfast foods, canned meats, soups, fruits, and vegetables in a great variety of forms which require little preparation for use. And yet, one could not live on these productions; there must be a knowledge of cooking, for most of the foods necessary to an appetizing, economical, and healthful diet are unprepared. "Scientific cooking depends upon an intelligent understanding of the chemistry of foods, and

of the chemical and physical laws underlying the cooking processes." We all know of the famous cooking of some dishes by the colored "mammies" of the South, and most men recall with tender memories the pies, shortcakes, pancakes, and stews that their mothers made, forgetting that they no longer possess a boy's appetite. But the ability to make these delicious dishes was acquired only by long and costly experience, and if there was failure, the cook did not know the reason for it.

Miss Cochran says, "To cook intelligently we must know the reason for each step. Why do egg and milk curdle if cooked at too high a temperature? Why is nine-tenths of the cream of tomato soup which is served, curdled? Why do many serve a pasty mass of rice instead of an attractive dish of fluffy grains? Why, if we wish pastry to be light and flaky, do we have the ingredients cold and then put the paste into a very hot oven?

"For the answer to these and hundreds of other questions we turn to chemistry or physics. A knowledge of the composition of eggs and milk, and the properties of albumen, of the action of acids on the casein of milk, of the processes involved in the manipulation of rice, of the expansion of gases when subjected to heat, will prevent the common errors in cooking any of the dishes mentioned."

An understanding of the nutritive value of foods will not only aid wonderfully in solving the problem of the high cost of living, but will also do much towards the production of a more vigorous race. It is not always the highest-priced cuts of meats that are most

nutritious, and skill in utilizing every part so that there shall be no waste is one of the most important things be be learned.

2. *Marketing.* — Much of the economy and success of household management depends upon the knowledge of how to market. Many a housewife turns this important duty over to the cook or does her ordering through the telephone. It is far better to go to the market and make the selections needed, thus learning the prices and being sure of the quality of the purchases. Not only will money be saved, but a better grade of goods will be secured. There are few dealers that will not give better service if they meet the mistress face to face. She should study the grades of goods and learn to select what will just suit her purpose. Lessons upon choosing the cuts of meat, upon the characteristics of vegetables and fruits, upon the manner of determining whether a fowl is tender, or a fish wholesome, can easily be given in the school. Skilful marketing, which aids so materially in solving the problem of the high cost of living, is an art worthy of more attention than is usually given to it.

3. *Cooking.* — The French are celebrated for utilizing every particle of food, and by their skill in cooking; savory and wholesome dishes are prepared at little cost. "We never allow any part of a roast to come on the table a second time," boastfully asserted a housewife, and thus perfectly good and wholesome food is thrown into the garbage. What utter foolishness! for not only are excellent cold cuts usually left, but the bones and other remnants can be made into delicious soup. American girls need to be taught the folly and

waste of throwing away whatever is clean and wholesome and can be made into some other dish. Improper preparation of the food brought into the house, lack of knowledge as to how to make the most of material, and wastefulness from the table, are making the cost of living high and keeping many people poor.

4. *Harmony of foods.* — There must not only be skill in preparing food, but there must also be knowledge of the suitability and harmony of foods. Here is seen the necessity of being acquainted with the chemistry of foods. A course in home economics must include a treatment of this subject. An improper mixing of foods that separately are wholesome is liable to cause indigestion and distress and thus utterly fail, and worse than fail, to perform the function of food, namely, to nourish and build up the body. It is not enough that food shall be appetizing. Lobster salad corned beef and cabbage, and ice cream are all appetizing, but mix these three in one sitting at the table, — and I have seen worse combinations, — and it will be a miracle if trouble does not follow.

The serving of one type of foodstuff, however, to the exclusion of others, is even more dangerous than the improper mixing of food because it is more common. For instance, it is not uncommon to find rice and potatoes served at the same meal. If meat or other protein food is served at the same time no harm may result; but if, as is often the case among the poor, there is an insufficiency of food containing protein and mineral matter, then all the family suffers more or less and the children are often dwarfed and deficient both physically and mentally. The only way to over-

come these evils is to teach the needs of the body, the composition of the various foods, and the manner in which the body utilizes, or rather prepares for utilization, the food which is eaten.

It is as much the duty of the housewife to offer a suitable and harmonious selection of foods as it is to prepare them well. Attention to this feature of household duty will preserve health, add immensely to the sum of human happiness, and lengthen life.

5. *Sanitation.* — The importance of sanitation in the home is recognized in modern life, and as a consequence the home has been made far more comfortable and the period of longevity extended. Cleanliness, the care of garbage, attention to the plumbing and sewerage, wholesome water, good air, the house-fly nuisance, and other matters connected with the household are of the greatest importance in conserving health. Many parents are either ignorant of these things or indifferent to them. It therefore behooves the school to furnish such instruction as will give an intelligent conception of the dangers with which unsanitary conditions menace the home and to suggest practical remedies for them.

6. *Disease.* — Closely connected with sanitation are the symptoms, nature, and treatment of the commonest diseases of childhood. It is not to be expected that the school shall teach how to treat dangerous diseases. But there are many simple illnesses of children that can be attended to in the home, and the dangerous symptoms of these should be understood. Every family cannot afford to call a doctor whenever one of the members is out of sorts, nor indeed is this

necessary. First-aid remedies should be understood, and when the case does not readily yield to these, a doctor should be consulted. An especial caution is necessary, namely, that the call of the physician shall not be too long delayed. I am only urging that there shall be a knowledge of the simplest diseases and of the signs of danger. In a word, a knowledge of what might be called home nursing. Especial attention should be given to training in how to carry out the doctor's orders. Everyone should know how to take the pulse rate, to estimate fairly accurately the temperature, and to determine the presence of the fever which may accompany scarlet fever, diphtheria, measles, and other serious diseases. Instruction in these things is wholly practicable in all the schools, and is of the highest importance.

7. *Clothing.* — The selection of suitable and durable clothing for the family is very essential in the practice of home economy. There is an infinite amount of waste occasioned by ignorance in regard to the value of the stuffs used in clothing. Often a garment is bought because it is cheap in price, when, perhaps, in the end, it is the most expensive. Children need clothing suited to the season, well-made, plain, and strong. Such clothing should not be of a character to stimulate their vanity. At the same time it can be attractive as well as serviceable. Then, too, children, boys as well as girls should be taught to take care of their clothing, to put it away in place and in order upon removing it and to keep it clean. Mending, darning, cleaning, and renovating should be taught to girls as soon as they are old enough. The training

of German girls in this respect might well be adopted in the American home. It would add materially to the comfort and economy of living.

8. *The servant question.* — No solution of the embarrassing question of servants can be offered in the space here at command. How to secure servants, how to obtain efficient service from them, and how to keep them are problems that are harassing many a housewife. It may be said, however, that most servants have respect for a mistress who quietly, yet firmly, assumes her place as the head of the internal affairs of the household, that is, provided she knows how to conduct these affairs. Kindly treatment of the servants of course is most essential. The work of the household should be so systematized that it may be carried out without friction, each day having its specific tasks and its time for rest. These simple suggestions, if faithfully carried out, will do much to make the relationship between mistress and maid happy and successful. Courses in household economy should not fail to include lessons in this important field.

9. *Care of children.* — A great deal has been learned in recent years in regard to the care of children. We have seen that not long ago forty per cent of all the deaths in this country was of children under five years of age, and that this is reduced now to less than twenty per cent. Successful treatment of diphtheria, scarlet fever, measles and other children's diseases is largely the cause of this wonderful result. But the practice of hygienic measures, the careful study of foods, especially that of milk and its use, cleanliness, proper clothing, and the use of preventives in the

treatment of the common diseases, are also of great importance. Is there any reason why many lessons upon these matters should not be taught in the schools? The school undertakes to prepare for life, — healthful, happy life. What instruction, then, more important than this can be given?

Home economics thus should find a place in the curriculum of our schools. Girls should be offered an opportunity to learn the duties which will later confront many of them as wives and mothers, and which it is well that every woman should understand whether she is to become the head of a household or not.

CHAPTER XVIII

INSTRUCTION IN AGRICULTURE

The Need for Instruction in Agriculture. — A larger number of people in this country gain their livelihood from some form of agriculture than from any other pursuit. And yet, until recently very little attention has been paid to the scientific study of this subject. The large increase in the population of the country, the exhaustion of the immense public domain, the competition of other countries in agricultural products, and the great increase in the cost of living have combined to compel us to consider how we may not only conserve our resources but also increase them. It is obvious that the most fertile and profitable field of investigation in the solution of the problem is the securing of larger returns per acre, in getting higher average crops. With the natural fertility of our soil and with our excellent climatic conditions, the returns from our farms per acre are ridiculously small as compared with the returns from the farms of other countries.

The migration from the farm to the city has been so steady and persistent as to alarm public economists, and has led to a serious study of the problem of keeping the boy on the farm. Already there are signs of reaction and indications of a return to earlier conditions. Farm life is made more attractive, the returns are more profitable, and the tide seems to be turning in the right direction. Great universities and agri-

cultural schools are studying the art of scientific farming, agricultural departments have been established by the national government and the state governments, scientific lectures on farming are everywhere being given, a large amount of literature is being distributed, and in many sections the subject is receiving attention in the common schools. At last the country is aroused as to the importance of the subject.

However, the discussion which follows is particularly concerned with the children of the district school. There is no reason why the children of the farming districts, the boys and girls of the rural school, should not be interested in such questions as the nature of soils and the adaptation of crops to various soils, the selection and planting of seeds, the choice of fertilizers, the rotation of crops, the care of live stock, the testing of milk, and other matters connected with successful farming. The study of these problems is far more practical and interesting than that of many subjects now taught in these schools. These things, moreover, tend to popularize the farm and keep the young people at home. Increased transportation facilities are removing the isolation of rural life and attracting city people to homes where the children can get near to mother earth, where they can have vegetable and flower gardens, and where they can be surrounded by natural, wholesome, healthful, and uplifting influences. Many rural schools have established school gardens, where some of the elemental features of scientific farming are illustrated, in which the children are shown how plants grow, and are taught to cultivate crops by actually doing the work themselves.

Not only are the children interested and benefited, since the work is made to correlate with other school work, but parents also become enthusiastic and the result often is greatly improved methods of farming in the whole community. This is not mere theory, for such has been the result in many cases where it has been tried. Thus the school becomes a beneficent influence, not alone for the intellectual, moral, and social upbuilding of the pupils, but also for the material prosperity of the whole community.

This work is entirely practicable, can be carried on at little expense, and will yield results far beyond the most sanguine expectations. It requires, however, a teacher of intelligence and enthusiasm. There are abundant recent publications treating of this subject to guide the teacher in this important and practical field of education. It is said that the weak link in our public school system is the rural school. Much that has been taught in the rural school has been copied from the town school curriculum and has been of little practical value to country children. The introduction of instruction in practical agriculture should aid in the solution of the problem of the rural school.[1]

[1] It is impossible to present an outline of a course in agriculture in a book of this character. I therefore refer the reader to the following works: —

Focht — "The American Rural School," Davenport — "Education for Efficiency," Burkett, Stevens and Hill — "Agriculture for Beginners," Hatch and Haselwood — "Elementary Agriculture," Nolan — "One Hundred Lessons in Agriculture," Bulletins from the United States Bureau of Education. Bulletin, 1913, No. 42, entitled "An Experimental Rural School at Winthrop College, Rock Hill, S. C." gives excellent suggestions as to what is possible in a country school.

The Home Project Plan of Massachusetts.[1] — Massachusetts has recently adopted a plan of agricultural education that is meeting with great success. The plan is as follows: Any town or group of contiguous towns may establish an agricultural school and receive state support. It is provided that "An agricultural school, day or evening, large or small, taught by one teacher or more, with or without school land and live stock, with training extended over two, three or four years, a school in general agriculture, or in such specialized productions as market gardening," may be established and one-half the expense be borne by the state, provided that the State Board of Education approves of its "organization, control, location, equipment, courses of study, qualifications of teachers, methods of instruction, conditions of admission and employment of pupils, and expenditure of money."

It is provided that in high schools maintaining vocational agricultural departments, a specially qualified teacher shall be employed who must give his attention exclusively to agriculture, and must work through the summer months, taking his vacation in winter. It is his duty to supervise the work of the classes in agriculture "from seed time to the securing of the harvest." In high schools meeting the above conditions, the state pays two-thirds of the instructor's salary.

"Part-time" Work. — In the effort to make the plan practical it is provided that the pupil shall divide

[1] See Bulletin, "The Massachusetts Home Project Plan of Vocational Agricultural Education."

his time between the school and the field. In other words, "Part-time work, as applied to agricultural education, means that the student must spend part of the time required for his education in productive farm work, preferably at home, and part of his time at school, the farm work and school study being closely correlated by the school at points selected from season to season or from year to year, and the highest possible educational value secured by competent supervision."

In this course the following topics are all considered: the kinds of crops that can best be grown are specified, the preparation of the ground for seed, the choice and preparation of seeds, soils, and fertilizers, the rotation of crops, watering and draining, the protection of plants from their enemies, the storing, preservation, and marketing of vegetables and other produce, the preparation of foods for the table and their nutritive value.

In many parts of the country the offering of prizes for the best yield of corn, potatoes, or other crop, seems to stimulate actual endeavor on the part of children. The record of one boy for 1912 is given as follows: "Vegetable garden, five-eighths of an acre, net profit, $44.35; credited self for labor, $12.00; boy's return, $56.35; the vegetable garden constituted a project which he carried on under school supervision. In addition, he set out and cultivated 1000 strawberry plants, raised one acre of corn and one-fourth acre of potatoes, plowed and planted one acre of millet and one-fourth acre of buckwheat, and cared for three cows, one horse and fifty hens." The boy's father was not able to work, so that he alone was responsible

for the work. With allowance made for his work and for the produce sold, the boy was entitled to a credit of $164.60, which, added to his "project" account of $56.35, made a total of $227.05 as the result of his season's work. This was certainly a very profitable summer's work for a schoolboy, and the presentation of a concrete example of this kind should have the effect of keeping ambitious boys on the farm.

What Lessons can be Taught. — Professor Holden well says, "Real education is teaching the boy in the terms of his own life. You never really reach him until you do this. There is something in the home environment of every boy that holds the possibility of awakening his sleeping faculties to action — not only is there one thing generally, but many. And these things are almost invariably connected with practical work of some sort, usually with the activities of the life going on about him outside of the school. Boys and girls are interested in doing things, not in the abstract speculations with which the text-books are so largely filled." And he has proven this by the manner in which he interested his boys, and later their parents, in the selection of better seeds, thereby greatly increasing the yield of corn. He was successful also in interesting them in other ways connected directly with farm life.

The design here is to indicate work that is quite within the scope of the rural school and concerning which the teacher can easily inform herself. More scientific and extended work will be possible in well-organized and well-supervised schools where agriculture is taught. Every rural school should have some in-

struction in practical agriculture. This truth is so fundamental that it is strange that it has not long since been emphasized. Recent discussions of efficiency in the schools have brought this question among others to the attention of schoolmen and school authorities. Lessons of this character are quite practicable and they should make farm life attractive and enable the farm to produce more adequate harvests. The average crop of wheat in Denmark is 38 bushels to the acre; in Holland, 34; in England, 32; in Germany, 40; and in Minnesota, 13.[1]

1. *Seeds.* — Ignorance as to the character of seeds and indifference as to the selection of them often result in a poor harvest. It is important therefore that instruction concerning seeds be given. Early in the season, in March or earlier, seeds of the most common crops such as corn, wheat, beans, and cotton, should be soaked in water and then placed in soil and properly watered to determine if they will germinate. A shorter process consists in carefully dissecting the kernel with a sharp knife after soaking it in water. This will be found a most profitable undertaking, very simple and easily carried out, and of great interest to the children. The attention of farmers should be called to the selection of the most promising seed at the time of harvest and to the preservation of it for the next planting.

2. *Soils.* — It is hardly to be expected that the rural school will be able to make a scientific study of

[1] A very practical book on this subject suitable for the rural teacher is Nolan's "One Hundred Lessons in Agriculture," published by Row, Peterson & Co., Chicago.

soils. Yet it can teach the difference between sandy, clay, and humus loam and the necessity of moisture and air in good soil. Nolan suggests the following experiment, which will determine the water-holding capacity of soils. "Fill three small earthen flower-pots with finely pulverized soils, one with clay, one with sand, and one with humus loam. Weigh these, and if possible make them weigh the same. Then slowly pour water into each pot until the soils are saturated and the water begins to run out from the hole at the bottom of the pot. Weigh the pots of wet soil and determine which is holding the most water; which soil took in the water most rapidly; which most slowly; which of the soils could absorb the heaviest shower; which soil continues to drip longest; which drains most readily."

Soils from different fields can be brought in, and by this simple experiment their power to absorb and retain moisture, and therefore their ability to stand a drought, can be determined. By this means the farmer can determine the kind of crops to plant in each particular soil without experimenting with a crop in which a whole year's harvest may be lost.

3. *Fertilizers.* — The elements of plant growth are found in the soil. Nitrogen, potassium, phosphorus, and calcium are often found in insufficient quantities, and these must be supplied by the right kind of fertilizers. Farmers often go to the expense of purchasing fertilizers with no knowledge as to their suitability to the soil and to the crop planted and therefore they fail to get results. It would be far better for them to meet the expense of an analysis of the soil by an expert

in order to determine just which fertilizer is needed. While it is not expected that the rural school teacher shall be able to perform such work, she can at least direct attention to it.

4. *Rotation of crops.* — The farmers of Europe for centuries have been taking crops from the same soil, which, instead of becoming exhausted, has actually grown more fertile. We have seen that they reap three and four times the harvest per acre that we do, and while superior methods of cultivation and climatic conditions are doubtless important factors in securing these results, there is no doubt that the chief reason is found in the systematic rotation of crops. While their lands have been tilled for a thousand years and have grown richer, ours are often sadly depleted after scarcely a hundred years of tillage.

The European farmers follow a scientific plan of rotation, — wheat, potatoes, beets, clover, rye, millet, etc., succeed and alternate one another. Besides this the fertilizers are carefully selected so as not only to meet the wants of each particular crop, but also to preserve the soil for the future. There is no such thing as "skinning the land" to get the most out of it, regardless of future crops. We have suggestive illustrations of the folly of our system of farming in the depleted tobacco and cotton lands of the South, and the wheat lands of the West. Planters continued the same crop year after year, taking from the soil and giving nothing back to it, until the land had nothing more to give. I saw a gentleman gathering seeds from a tulip tree a few days ago, and when I asked him what he was going to do with them, he replied,

"I am going to plant them in the woods. We are constantly taking things from our forests and giving nothing back to them. I take bushels of seeds with me every time I go to Europe and plant them in the forests over there. I also bring large quantities of seeds home with me for the same purpose."

Change of crop draws new elements from the earth and the sky, rests the soil, and restores and reinvigorates it. Variety of crop does not stake all on a single venture, the failure of which may mean ruin. Thus some fields may be devoted to wheat, others to corn or to potatoes, or beets, or flax, and if one of these fails, the others may produce a harvest.

5. *Insects.* — It is claimed that insects every year destroy crops in this country to the value of several hundred million dollars. As I write, the army-worm and the grasshoppers are devastating many sections of the country, and the agricultural departments of a number of states are hurrying hundreds of men to the afflicted sections with the means of destroying these enemies of the farmer. This is one of the most hopeful signs of progress of recent times.

Some years ago, while visiting my native place in New York State, I came over the brow of a mountain, and in looking down into the distant valley I saw a single tree at the edge of a beautiful maple grove that showed signs of caterpillars. When I called the attention of my companion to this, he replied indifferently, "Yes, that is the work of caterpillars, but I don't think it will amount to anything." A year later I made that same trip and every maple tree in that vicinity was as destitute of leaves as in mid-

winter. The cocoons of the worms were found upon every tree and shrub, and even the clapboards of the farmhouses and barns were covered with them. A third year the pest came in reinforced numbers and the trees, having lost their vitality from the repeated destruction of their leaves, were dying. Today many of the beautiful maple forests of that section have been wiped out. If this pest had been resisted with vigorous treatment, such as is being employed at present against the army-worm and the grasshopper, thousands of trees might have been saved and great loss averted. The Germans have long since learned how to care for their forests and we would do well to follow their example.

A decade ago the San José scale attacked and destroyed all the peach trees of New Jersey and Delaware. A spraying mixture was found that conquered this enemy, trees have been replanted, and the growers are again reaping an abundant harvest.

A knowledge of the habits of insects and of the means of destroying them is of utmost importance to the farmer. Some insects that attack the leaves of plants can be destroyed by spraying the leaves with a poisonous substance like lead arsenate. Nolan suggests a mixture of lime-sulphur and lead arsenate. The former "checks the spread of diseases such as apple scab, 'frog-eye,' fungus, brown rats, etc., and the lead arsenate kills the 'apple worm,' the leaf-eating caterpillars, and other chewing insects."

There are also insects that suck the sap from the tree or plant, such as different kinds of scales. These are destroyed by spraying with lime-sulphur or a mix-

ture of kerosene and soapsuds. The lime-sulphur can be purchased or made. Nolan's recipe is as follows: "Lime, 8 pounds; sulphur, 16 pounds; water, 10 gallons. Boil together for about forty minutes; then dilute one gallon of the mixture with ten of water."

Eternal vigilance as well as intelligence on the part of the farmer in the spring of the year is necessary, or insects will destroy his plants, make his fruit wormy, and rob him of the results of his labor. Elemental lessons concerning these matters can be taught in the rural school, and nothing the children can learn will be more practical, more useful, and more interesting both to them and to their parents.

6. *The dairy.* — The products of the dairy have a great deal to do with the comfort and the sustenance of the human family. Moreover, millions of people gain their livelihood in connection with some form of dairying. We already understand that cleanliness is the most important factor in dairying, and that milk is one of the articles of food most difficult to keep clean. And yet it is surprising how much ignorance and carelessness still exist in connection with this product.

Then, too, the importance of testing milk to determine the amount of butter fat it contains should be emphasized. By this means it can be definitely determined which cows are most valuable and most profitable. The testing of milk is a very simple process which can easily be taught in the rural school, where it would be sure to arouse interest and be of practical good. The underlying thought in this whole discussion is how to help the rural school and the patrons whose children attend it.

7. *Farm accounts.* — Many farmers drift along from year to year without keeping any account of their various enterprises, and therefore without knowing exactly which ones are yielding a profit and which are carried on at a loss. By a very simple system of bookkeeping most valuable hints can be gained for future guidance. It would certainly be suggestive if a farmer were to compare the cost of the seed, the fertilizer, and the labor necessary to raise a crop and the expense of harvesting and marketing it, with the actual return, and thus determine the exact amount of profit. The same account might be kept with the dairy, and indeed with each cow in the dairy, with the hens, the hogs, the sheep, and the vegetable garden. Lessons would be learned that would be excellent guides for future activities. Comparisons with former years would not only be interesting but profitable. Excellent suggestions as to the manner of keeping farm accounts are given by Nolan. The system employed is not vital. The point is that some record of the various farm enterprises should be kept, and instruction in simple bookkeeping for this purpose should be a part of the duty of every rural schoolteacher. It will be a help to the future farmers and farmers' wives, if not an immediate aid to present farmers.

8. *The school garden.* — Many schools have secured a tract of land in the neighborhood of the building, and on this the pupils are set to work, and the lessons practically demonstrated. One of the difficulties connected with the successful maintenance of the school garden is that the school is closed from June until September, and thus over two months are left when the

teacher is away and there is no one to do the work. In many parts of the country this is the period when most care is needed in cultivating and harvesting the crops and in fighting insects. Many things, however, can be done in the time at command in showing the children how the soil is prepared, the seed selected and planted, and the cultivation carried on. They can be instructed in the thinning and pruning as well as in the harvesting and marketing. In agricultural schools, which continue in session through the summer, and where the plan of part time for study and part time for outdoor work is practiced, the above handicap disappears. Much is being done, however, in many common schools, and much more can be done with the school garden idea, an activity in which children are easily interested.

9. *Additional topics.* — There are many other topics that the rural teacher will be able to take up, for example, fruit-growing, gardening, the care of animals and poultry, etc., depending upon the interests of each locality. If she lacks knowledge of these subjects, there is an abundance of books, pamphlets, and other available agricultural literature, from which the necessary information can be obtained.

As our population increases and our public domain diminishes, the cost of living will inevitably be higher unless the soil is made to yield a higher average of crops. It therefore behooves us by intelligent and scientific farming to increase the productiveness of our cultivated land at least as fast as our population increases. The difference between a crop of 13 bushels to the acre in one of our best wheat-growing states,

and 38 bushels to the acre in Denmark certainly leaves a wide margin of possibilities. And there is no reason why that difference cannot be largely canceled. What greater contribution to the public welfare can the school offer than to aid in this work?

Hon. P. P. Claxton, United States Commissioner of Education, predicts that every rural school will some day have attached to it a farm of twenty or thirty acres provided with a house for the teacher and his family. He says, "This farm, if properly operated by the teacher, will be a kind of model farm, and a center of the agricultural and social life of the district." While this vision undoubtedly looks into the distant future, it suggests a condition of things that would make rural life attractive, popularize farming, bring better returns for the investment, and increase the crops commensurate with the growth of population.

CHAPTER XIX

EFFICIENCY IN EDUCATION

Criticism of the School. — A great deal has been said in recent times about efficiency in the various activities of life, — in manufacturing and commerce, in public life, in war, in household relationships, and in every other field of human enterprise. No wonder that the school, which has the duty of preparing boys and girls for all these activities, should be called upon to focus its attention upon the question of its own efficiency.

I have already shown (Chap. IV) that great advance in education has been made, that criticism of our schools is by no means recent, and that just and constructive criticism is always welcomed by teachers to whom the defects of the schools are best known.

Criticism of the schools is by no means a new thing. Let me quote from a report of the board of education of Cambridge, Mass., schools: —

"A few of the schools excel in reading, while most of them, both in reading and spelling, are lamentably deficient. There is an unaccountable reluctance on the part both of teachers and scholars to use the spelling book, a book which, in the days of their fathers, was ever acknowledged 'the only sure guide to the English tongue.' For this reason, or some other, we have but very few, if any, good spellers. The committee are unanimously of the opinion that the

attainments in this branch are altogether inferior to what was witnessed in our schools twenty or thirty years ago, in the days of 'spelling matches,' and 'choosing sides,' and 'taking places,' when spelling was generally the most spirited and interesting exercise in school. It is sincerely hoped that, hereafter, much more attention will be paid in our schools to spelling."

Commissioner Kendall says: "This has a strangely familiar sound, but it was not written this year nor last year nor ten years ago but more than sixty years ago, in 1843."

Still, the cry from the press, the business men, and many parents continues to be, "The schools are teaching too many fads; get back to the 'Three R's' of the good old times." Now, no teacher will deny that the school that neglects to teach the children to read, spell, write, and cipher is failing in its duty. These things come first in educational development; they are fundamental, and weakness in them is most easily detected. A misspelled word, an incorrect pronunciation, a faulty use of language, stumbling in reading aloud, poor penmanship, are apparent to the most uncritical. Weakness in these things is easily discovered, and is generally accepted as an evidence of ignorance. Hence they must receive constant attention in the school, must be eternally drilled upon until the pupils have thoroughly mastered them. The public have a right to expect this and the school must meet this expectation. I assert that the children of our schools read better, spell better, write better, and cipher better than did the children of a generation ago. But they do not read, spell, write, nor cipher as

well as they should. These formal studies are the "tools" of education, without which educational progress is impossible. Therefore the importance of them should be emphasized with all possible force.

But there is another side to this matter of criticism that in all fairness should be considered. While the old-time school had only a few subjects to teach, it must not be forgotten that many new duties have been thrust upon the modern school. In former times most people lived on farms or in small villages and there were plenty of duties, "chores," for both boys and girls to perform. No boy in those times ever needed to ask the question which now so often pesters parents, "Father, what shall I do?" There was always plenty to do and children were early taught to be helpful. Most valuable lessons were thus learned. I doubt if any man or woman who was brought up under those conditions ever regrets having had such experiences. Manual training thus took care of itself. It has been estimated that a boy brought up on a farm had to know something of more than seventy different trades or occupations. Thus hand as well as head was employed in the development of the country child.

How things have changed in recent years! The cities are rapidly increasing, while the country is decreasing in population. Even in the country and on the farm, modes of living have greatly changed, owing to changes in the methods of farming, to the utilization of machinery in the place of hand labor, to improved facilities of transportation. For similar reasons great changes have taken place in the mechanical trades and in business enterprises. The blacksmith buys

much of the material he needs already prepared by machinery in the factory. He merely has to fit and shape it for its particular use. Formerly he was obliged to forge the horseshoe or wagon-clip out of a bar of iron, and very likely he even had to make his own tools. The same was true of the carpenter, the cabinet-maker, the cooper, the wagon-maker, and the plumber. It required seven years of apprenticeship to learn a trade; now three years is ample time.

In the household fully as great changes have been made through the introduction of vacuum cleaners, gas and electrical heating, and other labor-saving appliances. Besides, as I have shown elsewhere, much work formerly performed in the home is no longer done there. Equal changes have been made in business practices. It is thus seen that the use of the manual arts in the home has greatly diminished, and the school is called upon to furnish a training that formerly, from the nature of things, took care of itself. This must not be forgotten in making comparisons between the old-time and the present schools.

The More Important Duty of the School. — While the "Three R's" are the first essential, they are by no means the most important. One must have tools before one can build a house, but the house is of far more account than the tools. To pronounce correctly and with proper inflection, and be able to read aloud in a way to please listeners, is an excellent accomplishment; but to get the *content* of what you read is of far more importance; for one reads the paper, the magazine, the book, for the sake of the thought, the *content*, a hundred times as often as one reads aloud

for the edification of others. Reading for information is a principal source of knowledge. Therefore the main purpose of learning to read is to enable us to get the thoughts of others, to find out what the world has done and is doing. And yet, I repeat, we must not neglect to teach children to read aloud correctly and intelligibly.

To write a beautiful hand is an accomplishment. But to have thoughts to express and to be able to express them accurately is writing in the larger sense, which is of greater importance than good penmanship. But we must not fail to teach the pupils to write legibly and with facility. Rapidity and accuracy in adding, subtracting, multiplying, and dividing, and in other manipulations in arithmetic is essential; but to be able to apply these things in practical life is after all the purpose of studying this subject. I have endeavored to show in foregoing chapters on these subjects how these applications are to be made. The point here is that even with the common subjects of the school course the *content* side is of far more importance than the *form* side. Nor are these larger demands thus outlined by any means the only demands made. The world has made mighty progress during the last half century. New discoveries and inventions have been made; new conditions have arisen which have brought to the front many new problems in human life. The school, which prepares men for life, must meet these problems. While, a generation ago, a knowledge of the common branches sufficed for that time, it would not suffice now. A knowledge of geography, of the various branches of science, of history,

of literature, and of art is not only necessary for an intelligent comprehension of life and a preparation for usefulness and enjoyment such as the age offers, but it is absolutely essential to the equipment for ordinary business life. How often one hears some such expression as this from an elderly business man: "Business methods have changed. It is not so easy to succeed in business as it once was. Competition is so sharp that a man must be alert, active, and up to the times, or he will surely fail." I have already shown how the school has been compelled to introduce the manual arts. More and more, parents are thrusting the whole duty of education upon the school. Intellectual training has long been considered the special function of the school. Now it must assume also the physical and the moral training of the youth, and there is a strong tendency to introduce religious training into the public school, a duty that old-time parents, who regarded children as the gift of God, gladly assumed as a sacred duty. The home is the peculiar institution that should undertake this latter duty, and neither Sunday school nor day school can excuse parents from that duty. Unfortunately, the home is so sadly neglecting this work that the school must undertake it or it will never be done.

How the School Meets the New Demands. — When criticism of the schools is offered, the greatly increased demands and unusual conditions of the present day should not be forgotten. This is written not by way of apology, but as an explanation; for educators, better than anyone else, understand the defects of American education, as we have seen. The schools

are earnestly seeking to meet new conditions and thus keep in touch with the progress of modern times.

Let us consider the means that have been introduced to meet these new demands.

1. *Prevocational schools.* — Of course all education which precedes that which prepares for some specific occupation is *prevocational.* In a more limited sense manual training and domestic science are spoken of as the prevocational subjects. They are usually introduced into the late grammar grades. It is the kind of work that every child should have, regardless of what his future career may be. As already shown, they are purely educational. For further consideration of these subjects, reference is made to the chapters on Manual Training and Household Arts. In Chapter IV, I have attempted to show what the child should know. This knowledge surely is prevocational.

2. *The supplementary or continuation schools.* — We have not yet developed this work by any means so far as the Germans have. Their continuation schools are a distinct part of their school system, offering opportunity for children to supplement their common school training by thorough and varied courses, differing according to the needs of a community and its ability to supply those needs. In many cities it is possible for a boy to prepare himself in these schools, without interference with his daily occupation, for almost any trade or calling.

A beginning in this direction has been made in this country in vacation schools, night schools, art schools, and industrial or vocational schools. Many of the night schools lay emphasis upon instruction needed

by foreign-born children and by others employed during the day. Reading, writing, arithmetic, and other common branches are taught. Few night schools are able to offer work intended to fit for a specific vocation. In some of the art schools mechanical drawing, elementary chemistry, applied physics, and other matters connected with the industries of a locality are taught. Vacation schools usually offer work designed to bring pupils who have fallen behind in their work of the year up to grade. In some cases opportunity is offered to ambitious students who desire to shorten their course. In higher institutions, vacation schools or summer schools are conducted, in which courses are offered that lead to a degree or a certificate of advancement. Many cities are maintaining industrial schools in which printing, mechanical drawing, electrical work, machine-shop work, carpentry, and cabinet-making are taught. In some instances these lead directly to a trade, but the work has hardly been carried far enough to have a decided influence in preparing the American youth to gain a livelihood. The cost of equipment and the limited facilities offered, together with the lack of interest on the part of children and parents, will account for the comparatively few who take this work.

3. *Vocational schools.* — The laws of New Jersey define vocational education to be, "Any form of education, whether given in a school or elsewhere, the purpose of which is to fit the individual to pursue efficiently a recognized profitable employment." The schools just described may partake somewhat of this character. Vocational schools proper are intended

for youths fourteen or more years of age who are unable to continue in the regularly provided schools, as in the high schools. Wisconsin, since 1911, has taken advanced ground upon the subject of vocational education. It requires the pupil to attend school not less than five hours a week during the day time and employers are required to pay the child's wages for the time spent in school. Two hours of this time must be devoted to English, citizenship, business practice, physiology, hygiene, and the use of safety devices. The remaining time is devoted to such other branches as may be approved by the state board of industrial education. These schools are established by the direct vote of any school district. There is a special board of local control consisting of the local superintendent, two employers of labor, and two skilled employees. In country districts the local board consists of the county superintendent, *ex officio*, and six members elected by popular vote. Wisconsin follows the experience of German communities in placing vocational schools under a separate board with some members specially acquainted with vocational enterprises.

Illinois has under consideration the adoption of a similar system. The following are some of the features of the law proposed in this state: "1. Vocational continuation day schools are for the youth of both sexes between the ages of fourteen and eighteen years who are employed, or are not pupils in other schools. At these vocational schools such instruction shall be given as will render more efficient the practical work of the factory, the shop, the store, the office, the garden, or

the home." 2. Vocational evening schools for pupils over eighteen years of age for the same purpose as above shall be established. 3. Vocational continuation schools are to be opened for servants, apprentices, and clerks. Other forms of vocational schools are provided which may be established as any community may determine.

The success of vocational education in Wisconsin, where about 30,000 students are pursuing these courses, has attracted the attention of other states, and it would seem that the movement is destined to grow. Probably no city in the world has so effective a plan of vocational education as Munich, under the remarkable leadership of Dr. Kerschensteiner.

4. *The six-and-six plan.* — Many communities are changing from the traditional plan of the eight years' elementary and the four years' high school course to the six-and-six plan; that is, a six years' elementary course and a six years' high school course, the seventh and eighth grades of the lower school being attached to the high school. The following are the advantages of the six-and-six plan: 1. The normal child should complete the elementary studies at the end of the sixth grade. 2. Much in the seventh and eighth grades is spun out and unnecessarily repeated. 3. Subjects in these grades can be better given in the high school with its different methods and more sympathetic atmosphere. 4. The change of school at the beginning of the adolescent period is more natural than at fourteen or fifteen years of age, the time when most children now enter the high school. 5. Having thus been started in high school work, the child is less

likely to leave school than he is now. Experience has verified this wherever the six-and-six plan has been tried. 6. There could be a better adjustment of studies. Foreign languages, for example, could be begun earlier, while the memory is more accurate and retentive. 7. Subjects requiring several years of study could be carried on, if not by the same teacher, at least under the same administration. 8. The discipline of the school could be better adjusted to the pupils, they being given more initiative and responsibility than is possible in the elementary school. 9. The six high school years may be divided into a junior and a senior course, each of three years. This would make possible the establishment of a variety of junior schools, such as, industrial, commercial, agricultural, scientific, or classical, suitable to the needs and ability of any community. These could lead to and articulate with the senior high school for such students as are able to continue in school.

Such an arrangement would provide vocational training for the children of a city, inasmuch as they would be allowed to choose the school that offered the kind of work they desire to pursue. It is believed that such a scheme would materially aid in solving the problem of preparing children for greater efficiency. The larger number of children retained in school obtain a better preparation for whatever vocation they may enter upon after leaving the junior school, while those who desire to go on with their education can do so in the senior high school, which also prepares them for still higher courses of study.

5. *Part-time schools.* — In some communities the school and the industrial and business enterprises

have arranged a coöperative plan whereby school and shop or other outside work alternate. Cincinnati has developed such a plan in connection with the university courses, and a number of other cities are making attempts to adapt the scheme to their local needs. A notable instance is found in the plan worked out in York, Pa. As this plan seems to be working very successfully and as it excellently illustrates the idea of part-time schools, a description of it will serve our purpose in presenting this subject. It is as follows: During the first high school year no attempt at alternation is made. But the boys are given a general knowledge of the different trades, sent to the shops to watch the work, required to write themes, and are otherwise engaged for the purpose of discovering the trade they would like to learn and for which they are best fitted. The whole year is spent in school. When vacation comes, the boys are put into shops to begin the trade they have selected, arrangements having previously been made with the employers. From the beginning of the second year and till the end of the high school course the boys alternate school and shop work, the change being made each week. If at any time a boy is found to have made a mistake in the choice of a trade, he is allowed to take up another one.

Each boy is required to make a written report of his week's work upon returning to school. These reports are examined by the industrial director of the school in order to note whether proper progress has been made and to discover when he has so far mastered his tasks as to be able to enter a new field. The director also visits the shops where the boys are

employed from time to time, so as to supervise their work and also to prevent employers from exploiting the work by keeping a boy on a job that he has already mastered. The school insists that the boy is there to learn, and so soon as he has learned a particular phase of a trade, he must be moved on to a new phase. It will appear at once that the employer must be in complete sympathy with the movement and not expect the learner to work for profit. While the employer necessarily must be at some inconvenience and possible loss in thus participating in the scheme, the far-sighted manufacturers of York have found that it is a good investment rather than a philanthropy, for the superior training afforded furnishes them later with better mechanics and more skilled workmen. The difficulty in most communities is to bring managers of concerns to an appreciation of this fact. Coöperation of the kind so well established in York is therefore hard to secure.

Work in the shop is also made to correlate with the school work. The reports alluded to are turned over to the teachers of English for grammar, letter-writing, and general composition. Composition has a very different meaning to a boy when he writes about something in which he is interested, than when he must write upon an abstract theme. It appeals to him as something vitally connected with his success in life and he will naturally do his best. Arithmetic, drawing, physics, geography, and other subjects are easily correlated with the work of shop and school. Literary and practical work go forward hand in hand, and a knowledge of the one deepens the boy's respect for

the other. Books treating on the occupations are put into the pupils' hands and they thus gain a wide historical and scientific knowledge of their chosen life-work.

During the four years' high school course a boy obtains about two and one-half years' credit as an apprentice, as all his vacations are spent in the shops. He is paid somewhat more than the ordinary apprentice, and the employers justify this on the ground of his superior intelligence and schooling. Upon completing the course, the boy is given a diploma signed by representatives of the two institutions that have taken part in his education, the school and the manufactory, for the one has been educating him as truly as the other. After graduation he readily finds employment as a mechanic, and after a brief trial he is admitted to full journeyman privileges and emoluments.

It may be mentioned that the literary work of the high school course does not suffer materially by this plan. Indeed, in many cases, it seems not to have suffered at all, as is shown by the manner in which graduates from these courses sustain themselves in colleges and in other higher institutions. The explanation is found in the deeper interest awakened, in the ambitions inspired, and in the mutual reactions caused by employment of both intellectual and motor activities.

The principal difficulty in carrying out the part-time school, as already pointed out, is found in the unwillingness of employers unselfishly to coöperate. Without this coöperation success cannot be attained. With it the solution of many puzzling educational prob-

lems, such as the preparation of better trained artisans, more regular and longer continued attendance at school, a deeper interest in school work, and a higher respect for manual activities, would seem to be at hand. A great deal remains to be done, but a beginning has been made that should materially aid in preparing our children for better citizenship and greater efficiency in obtaining a livelihood. Thus the school is not only a preparation for life, but the school actually becomes life.

CHAPTER XX

MORAL INSTRUCTION IN THE SCHOOL

Importance of Instruction in Morals. — Never before in the history of education has it been so clearly recognized that education must have an ethical basis. The educated thief is a far greater menace to society than the ignorant one, for he will not only be more skilful in planning and executing his crime, but also be more shrewd in escaping punishment. The Herbartian school of pedagogy lays particular emphasis upon the moral side of education, defining education as the development of all the powers of man to the end that good character may be formed. The general policy in American schools is to make moral training indirect and incidental rather than to give it a formal place in the curriculum or to take note of it in the schedule of daily work. There is a growing feeling among educators, however, that the school is losing in power by such negative practice. This feeling is substantiated by the too evident disrespect for law, and by the alarming fact that the increase in youthful criminals is greater than the increase in population, and that our institutions for juvenile delinquents are overcrowded.

The presence of these conditions has led many thinkers to feel that the indirect moral influence of the

school, exerted through the wholesome environment, the high ethical standards, and the earnest work of teachers of pure lives and holy example, however excellent it may be, is not sufficient to meet the emergency. There is an earnest and imperative call for something else, and the answer to this call is the greatest problem now confronting American education.

France abolished religious instruction from her public schools in 1886. The increase in juvenile crime was at once so marked as to cause general alarm. It was evident that the diminishing of the restraints of religion consequent upon its withdrawal from the schools was having an immediate effect upon the moral standards of the children. Consequently the government, while it could not restore religious instruction, introduced moral instruction as a definite requirement of the school curriculum. It was not many years before there was noted a marked change for the better in the moral attitude of the people, showing that definite and systematic moral teaching in the school has a beneficial effect.

Religion and Morals. — There is a close connection between religion and morals. Indeed, systems of morals are founded upon systems of religion. The moral ideals of China find their basis in the teachings of Confucius, which have recently been reaffirmed as the state religion. The morals of the Mohammedans find their basis in the teachings of the Koran. The Veda likewise furnishes the moral as well as the religious code of the Hindus. So, too, the teachings of the Bible are for the Christian the foundation of moral ideals.

Failure to distinguish between religion and morals is common, many holding that they are identical. Religion teaches the relation of man to God; morals teach the relation of man to his fellowman. The Ten Commandments furnish the basis of obligations, religious and moral, the first four teaching the duty of man to God and the last six the duty of man to other men. The fourth also, "Remember the Sabbath day to keep it holy," surely has a bearing upon man's duty to his fellowmen, especially that of the employer to the employee, as well as possessing a spiritual significance. Observance of the Sabbath is not simply a recognition of God's command. True, it awakens and stimulates a reverence for sacred things, but it also has a decided moral influence, in that it turns one away from the harassing care and heavy burdens of everyday life, and furnishes an opportunity for rest and recreation, for upbuilding of body, mind, and soul, and for the recuperating of spent forces. It is well established that from a business standpoint it pays to set apart one day in seven for rest. And so the Ten Commandments are the basis of moral law, and if these are not sufficient, Jesus added another in the words, "A new commandment I give unto you, That ye love one another; as I have loved you, that ye also love one another." This, in the deepest sense, is religious, and it was intended to bind the disciples together for the propagation of His doctrine and the spread of His Gospel. But it surely furnishes the very best suggestion for the conduct of men for all time, without reference to religious creed. The moralist who rejects the spiritual message of Jesus certainly

cannot escape His teaching in the words of the Golden Rule, "Do unto others as ye would that they should do unto you," for that is the corner-stone of the moral creed. Therefore, we must turn to the Bible and to the teachings of religion for the basis of moral instruction.

Sister Helen Angela gives four fundamentals of character as follows: "Religion first, the stone of the corner which many builders have rejected; a will, active and strong as well as good; self-control to hold the emotions in check; and the habit of right action." She also adds, "There is no common mold in which to form character. Each child must be permitted to keep his own. God must have intended it so. No one thinks of converting buttercups into daisies or roses into lilies; we should miss the buttercups and roses wofully. It is not right for anyone in authority to project her pet ideal of character on her subjects; if she does she is making something artificial, straining God's ideal for each individual."

Means of Moral Instruction. — It should be the aim of principal and teachers to make the life of the school, in every activity and relation, count for moral education. In working toward this aim the following means may be suggested:

1. *The character of the teacher.* — Appropriate means should be employed to develop and form the moral character of the pupils. There is the indirect, daily, quiet, ever effective influence of the life of the teacher, which, as countless men and women can testify, has formed the ideals of pupils, inspired their ambitions, purified their motives, and shaped their lives. Many a man who is serving his fellowmen in noble and self-

sacrificing devotion, who is noted for his integrity and beloved for his altruism, owes to some humble school-teacher the inspiration of the life he leads. This is one of the teacher's greatest rewards, and because of the opportunity which the calling affords, teaching becomes to any man or woman who seeks to be a blessing to mankind the noblest of all professions. It calls for the same spirit that the Master inculcated when He said, "Inasmuch as ye have done it unto one of the least of these my brethren ye have done it unto Me." The personal example and the life of the teacher is the greatest indirect influence in molding the moral life of the youth of any land. It is a supreme satisfaction that the great body of American teachers measures up so nobly to the highest ideals of moral life. This fact is the greatest influence that exists for the ethical upbuilding of our future men and women.

2. *Insistence on regularity of attendance.* — In twenty years, from 1875 to 1895, the school attendance in England increased from 1,500,000 to 6,000,000. During the same period the number of arrests of juvenile delinquents decreased from 14,000 to 5000 per annum. The only discernible cause for this decrease is the influence of the schools, a fact which is a remarkable commentary on the moral effect of keeping children at school. It has generally been found that juvenile crime increases during the long summer vacation, when the children have nothing to do and when they are not under the control of the school. The maintenance, under the direction of teachers, of vacation schools, summer schools, and public playgrounds has resulted in a great diminution of offenses

by children against the law. One police judge testifies that during the time that such schools were in session the number of juvenile offenders in his court decreased sixty per cent, and that as soon as the summer schools closed the fact became at once apparent by the increased number of arrests.

The boy out of school who is not employed is likely to get into mischief. The truant is the embryo tramp, and the surest way to stamp out the vagrant evil is to prevent the formation of nomadic habits by the child. Regular attendance inculcates regular habits and teaches the boy to stick to his job. Compulsory attendance laws, efficiently enforced, thus become a strong moral agency. Many a child is without any good home influence, and the street is a poor place in which to learn steady habits, to imbibe a proper sense of duty, or to acquire high ideals. To make the school wholesome, attractive, and interesting is the work of the teacher. But to require the child to attend regularly is the work of the state and the parents. "Will you please make my boy come to school? He will not come unless I bring him," said a Berlin mother to a school principal as she delivered her six-year-old boy to him one morning. "It is your business to see that your boy is in school, and mine to attend to him when he is here," replied the principal; and he added a serious warning in the words, "I am afraid, madam, that you have failed in the training of your boy, else you would not have such trouble in getting him to school."

The large majority of the children will be reached by the ordinary influences of school life. But there

will always be a few that cannot be so reached, and these constitute the small minority from whom future vagabonds are recruited. It is for these largely that restrictive laws must be made and courts maintained. So the school and the state must make unusual efforts to save the few who constitute the greatest element of future danger. Enforcement of regular attendance will have a decided influence upon the moral character of the child.

Nor is it sufficient to rely upon rewards, incentives, or other superficial means of securing regular attendance, although many of these are unobjectionable and may have a temporary effect. The child must learn to be regular, because his irregularity defeats the work of the school and therefore trespasses upon the rights of others. Moreover, irregularity is a bad business practice and hardly prepares one for a steady job. What has been said of irregularity applies also to want of punctuality. The same argument holds true against this evil, while on the other hand the moral effect of the habit of punctuality is as beneficial as that produced by the habit of regularity. Tardiness delays the work of the school and is therefore a sin against others. No parent can say, "If I choose to keep my child home or let him come late, it is my business, and nobody's else," for these evils affect the whole life of the school and therefore are the business of the school authorities. Emphasis should be laid upon the moral aspect of these matters as the final consideration.

3. *Importance of the physical side.* — The condition of the body has much to do with one's moral life. Henry Ward Beecher once said, "Some people deserve

more credit for being decent, than others do for being saints." Doubtless he had in mind the weaknesses and inherent tendency to evil that some men seem to possess, but I think that his statement may well be applied to physical conditions as well. It is very hard for one to be good-natured if indigestion is disturbing the internal machinery, or if rheumatism is racking one's body. There are times of peculiar suffering when it takes all the qualities of the "saint" to keep one "decent."

Medical inspection in the schools, in correcting bodily ailments, in preventing the spread of disease, in insisting on proper hygienic conditions, and in making the school more wholesome and sanitary, thus making possible more efficient intellectual work and adding to the comfort and happiness of the children, should have a great influence upon the moral character of the pupils.

Every time the teacher requires the child to stand erect when he recites, to carry his body properly when he walks or marches, or to sit properly, he is giving the child a feeling of self-respect, a command over himself, and a conscious power fundamental to the establishment of a moral sense. Nothing so surely indicates moral degeneracy as a slouching gait, a lack of physical poise, and a want of dignified bodily carriage, as witnessed, for example, in the ordinary tramp. The man who has control over his body, created in the image of God, and who carries it well, is apt to possess something of godlikeness in his character.

A great deal of attention is now being given to the nourishment of children. It has been found that no

good intellectual work is possible when the body is not well nourished. Some schools are furnishing food at cost for those who can afford to pay, and free lunches to poor children. Such practice is perfectly logical if the school is to perform its duty. Who can say how large a factor bodily weakness is in determining moral accountability? Many a man takes a drink because of the abnormal craving which follows eating the badly selected, ill-adapted, ill-cooked, and poorly combined food he has been served. The truth is that many a woman is responsible, in a large measure, for her husband's intemperate habits. Instead of satisfying his normal appetite, the food creates an abnormal one; instead of meeting the needs of the body, it loads the system with unwholesome substances which cannot be digested and which often cause the victim to seek relief in alcoholic drink. Nothing would do more for the cause of temperance than a knowledge of the hygienic values of foods and a proper understanding of the science and the art of cooking. The teaching of domestic science, therefore, should not only add materially to the health and comfort of the American people, but it should also have a salutary effect upon their moral life.

4. *The employment of the pupils' time.* — Every teacher recognizes that the secret of good order in the classroom is found in keeping every child busy upon some task in which he is interested. The trouble is to find work that meets this demand, that is, that arouses and holds the child's interest. The extension of the school curriculum to include a much wider variety of subjects, especially those that call for

handiwork, has aided materially in the solution of the problems of school government. There could be no better argument for the success of the modern school. We still find critics who are demanding a return to the old, narrow course of study consisting mainly of the "Three R's." Such a reactionary movement would not silence the critics: indeed, their number would increase a hundredfold, and justly so. I have shown elsewhere (page 231) that the needs of modern life put duties upon the school that were not dreamed of half a century ago. Discipline is better in the schools, not only because the teachers are better trained but also because the schools are offering suitable, practical, and interesting work for the children. It is very rare now that the child must be driven to school; he loves to go because it attracts and interests him. This is the best evidence that the modern school is proceeding along the right lines.

The school is compelled to offer a wide curriculum, especially in the field of manual and industrial arts, subjects which are so much neglected in the home and which are so essential in this industrial age. The greater the variety of subjects offered, the more nearly will it be possible to meet the needs of the individual child, a principle which is the slogan of modern education. And in the meeting of these needs not only will the problem of discipline be solved and the moral character of the child be formed, but in addition the pupil will be fitted for that occupation in life for which he is best adapted.

Industrial schools, wherever established, are proving conclusively that these ends will be attained. I have

elsewhere described a visit to an industrial school which had been organized at the outset principally as a school for incorrigibles, but which soon ceased to have that purpose for the simple reason that its boys soon ceased to be incorrigible. Additional details may be interesting as they have a bearing upon this theme. One boy who had been expelled from nine public schools was pointed out. Another had drawn a knife upon a teacher. A third was an habitual truant. One had spent a term at a reform school. Many of these boys had an unsavory history. Yet, I never saw better order in any other school. Every boy was happy, contented, obedient, and interested in his work. Truancy and incorrigibility were unknown. Some of them were engaged in mechanical drawing, others were setting type, a number were installing electric wires for lighting, telephoning, and for house-bells, and others were engaged in various branches of wood-work and metal-work.

Upon leaving the school these boys engaged in useful trades and became good citizens. The principal showed me letters from employers of his old boys in which every one of them testified that the boys were making good. How much better for the community to spend money for the support of such a school than to spend it for court expenses and for jails! And besides the individual redemption of these boys, they are saved to society to add to its wealth rather than to be a menace and an expense.

Suitable employment in the school thus becomes a tremendous moral force, not only in the successful management of the school itself, but also in the prepa-

ration for useful citizenship and in the formation of moral character. To possess a trade or a calling and to be employed in it, is a great safeguard against a vicious life. The great temptations come to a man not when he is employed but rather when he is out of work or at leisure. It thus becomes the duty of the school to teach the child how to employ his time when he is not employed, how properly to occupy himself during his leisure hours. This knowledge is the best antidote against the saloon or the place of evil resort, to which many go because they do not know how to spend their time when free from work.

The education that fails to teach the art of self-employment will neglect one of the most important moral agencies. Social, political, and religious activities, and books, furnish abundant means of growth, so that no one need be without a constant stimulus to improve and enjoy himself, especially while the needs of his fellowmen are forever inviting him to useful activity.

5. *Influence of environment.* — There is no doubt of the uplifting and refining influence of one's surroundings. The presence of a beautiful picture, like a "Sistine Madonna," Leonardo's "Last Supper," or Hoffman's "Christ in the Temple," exercises an elevating effect upon those who are brought in contact with it. The decoration of the windows and walls of churches and cathedrals with works of art, especially with illustrations of scenes and characters from the Bible, is sure to exercise a holy influence upon the worshiper.

So, too, excellent pictures and flowers in the home

and the schoolroom serve wonderfully to stimulate moral life. Patriotism also is taught by portraits of Washington, Lincoln, Grant, and by such pictures as "Washington Crossing the Delaware" and "The Battle of Gettysburg," provided such pictures are explained as to their historical or artistic value. Even if no explanations are given, the child will unconsciously absorb something elevating.

Beautifying the schoolroom and schoolgrounds not only cultivates the æsthetic sense, but the ethical and the spiritual as well. And these influences in the school are the more important because the home is so often destitute of them. A strong argument for the playground movement is found in the fact that it removes the children for a part of the day at least from the unwholesome atmosphere of the street and the degrading life of many homes. I have shown elsewhere how such movements have materially diminished crime. Life on the street offers little promise of moral uplift; on the contrary it often counteracts the influence of school and the home and debases the character. Environment can thus be made an important agency in the moral training of children.

6. *Material from fact and fiction.* — Children are always interested in stories. From history, biography, and general literature an abundance of material most fitting to inspire ethical ideals can be selected. Stories of Alexander the Great, Napoleon, Cromwell, Washington, Lincoln, Gladstone, Garfield, McKinley, and a host of others are of never-failing interest to children. Gems of literature can be taught, selections from masterpieces presented, and the pupils can be led to

acquire a taste for the good and an abhorrence for the bad. This field supplies an unlimited amount of suitable material which can be classified for use in connection with any specific lesson to be taught. Schaeffer's "Bible Readings for Schools"[1] contains an excellent arrangement for the morning exercises. It suggests Scripture readings bearing upon every feature of moral as well as religious life. The following are some of the selections having a particular bearing upon morals: "David and Jonathan," "The Unmerciful Servant," "The Laborers in the Vineyard," "The Good Samaritan," "The Prodigal Son," "Love your Enemies," "Forgiveness," "Humility," "The Virtuous Woman," "Purity," "Strong Drink," "The Slothful and the Diligent," "Exhortations to various Virtues," "Love or Charity."

The law in most states permits the reading of the Scriptures at the opening of school without comment or explanation. The determination to prevent sectarian discussions in the public school has in some states led to the placing of restrictions upon Bible reading. No one wants the doctrines of any one sect taught in the public school, and yet the American people do want their children trained in the essentials of faith, which, as I have already shown, is the foundation of morals. Everybody would object to the teaching of the peculiar dogmas of any church in schools supported by public funds. In our eagerness to avoid all appearance of sectarian teaching, we have gone to an extreme and excluded fundamentals upon which all agree. There is a feeling of dissatisfaction with the present situation,

[1] The American Book Co., New York.

not only on the part of religious bodies, but also among educators, and with the American people at large.

The following incident shows that parents of all beliefs would welcome a change in this respect if a sane and judicious plan were adopted. A young teacher had charge of a school in a rural community. She was a devoted and conscientious girl who believed that education includes the development of the spiritual side as well as the other sides of the child. When she had gained the confidence of the parents, she visited every family and asked permission to give her pupils some simple religious instruction. Catholics, Presbyterians, Methodists, Baptists, and Jews alike not only gave their consent but actually welcomed the suggestion most gladly. She therefore introduced Bible study without friction and with most excellent results. Of course the teacher must possess discretion and common sense.

From the standpoint of morals what one of the selections from Schaeffer would need be restricted as to "comment or explanation"? Indeed, should not every one of these passages be explained, so that the children may understand and apply them? Let the reading of one of the stories, like the "Good Samaritan," "David and Jonathan," or "The Slothful and the Diligent," be followed by a simple explanation and by concrete application, and such teaching could not fail to have most beneficent effect upon the children.

So, too, stories from history and fiction can be utilized. Publishers are supplying the schools with an abundance of literature drawn from history and fiction which is suitable for children of any age. There are stories of the great men of all lands and all periods,

clothed in language that a child can understand, to be had for five cents a copy. The teacher is thus able not only to tell the story of the heroism, patriotism, unselfishness, or nobility of some character, but also to put suitable stories into the hands of the children. This practice, available to every teacher, affords the richest means of moral instruction.

7. *Morals ideals in sports.* — The sports of children deserve much greater attention than is being paid to them. Many teachers give little attention to the games of their pupils at recess or out of school. If assigned to recess duty, they regard it as a bore, and meet it as a perfunctory task rather than as a remarkable opportunity, not only to gain the good-will of the children, but also to shape their intellectual and moral life. The recess should be a joy to both teacher and pupil, because it furnishes an opportunity for vigorous, wholesome, and joyous outdoor sport. Many a teacher gets inspiration for her school work on the playground and learns lessons in discipline there that never can be obtained elsewhere. The teacher that can and will enter into the sports of her pupils is sure to find discipline easy, besides being able to exert a powerful influence upon all sides of the child's life. Often children reveal their real natures on the playground rather than in the schoolroom. How often is it found that boys who are indifferent to their lessons, and perhaps insubordinate to discipline, are the leaders in sports and the dominating spirits of the playground. Experience has often proved that it is these boys that become, in later life, the leaders in the world's activities. What an opportunity is thus furnished to study

the real child and so to shape his development that the best in him may be brought out and the world made the richer because of his life!

The president of a city board of education said to me, "Whenever we need a new principal we are choosing a man, for this reason. For years we had been having trouble with discipline in one of our schools and were puzzled to know what to do. We finally placed a young man in charge who entered into the sports of the boys. He organized baseball, football, and other games, making it a rule that no boy who was delinquent either in his conduct or his studies could participate in a contest. The problem of discipline has been solved, and it would be hard to find a more enthusiastic or loyal class of children anywhere. We think that a man understands boys, knows their games, is interested in them, can enter into the spirit of their sports, and therefore we are bound to have at least one man in every school." Whether a man or a woman, the teacher must be able to enter into the life of the children on the playground.

A teacher witnessed a match game of ball between two rival schools. There was a great deal of profanity indulged in by the boys. The following Saturday a return match was played and the teacher was asked to umpire. He consented on condition that there was to be no bad language used. Before opening the game, one of the captains called the two teams together and said, "Boys, no swearing today. The umpire will not stand for it." There was no bad language used during the game. It was an unusual opportunity of which the young man had taken advantage.

Many sports lend themselves peculiarly to the inculcations of moral ideals. Generosity, honesty, unselfishness, truthfulness, coöperation, and the sense of fair play must be practiced in baseball, football, and many other games. And it is difficult to teach these lessons in the daily school work, for the reason that there is no struggle for supremacy, as in games. The boy is not thrown upon his own resources, and there are few occasions to exercise generosity, unselfishness, and other virtues. The sports of children can thus be made an important agency for their moral upbuilding. Neglect of this agency may make the recess a danger which will counteract pretty nearly all the good influences of the school.

8. *Moral basis of all school activities.* — The teacher should be so imbued with all the importance of character building that every school activity should be made to have an ultimate moral basis. The child must be regular in attendance, not to escape punishment, not to get on the honor roll, not in order to get his name in the newspaper, and not even for the sake of keeping up with his class, however unobjectionable these devices may be. He must learn to be regular and punctual because it is right, because it is his duty, because failure to do so hinders the work of the school and trespasses upon the rights of others. Parents also often need to learn the same lesson. "I keep my boy home because I need him," says a father. A mother keeps her daughter home because she has a dressmaker in the house. "Surely a day or so cannot make much difference," she says. Parents delay their return in September from the seashore, explaining, "If the

children are a week or two late it will not make much difference. They will easily catch up." Underlying all this is the thought still prevalent with many parents: "It is my child and I have a right to do what I please with him."

The state has long since established the fallacy of this reasoning by enacting laws protecting children from the brutality of parents, and laws regarding child labor and school attendance. Parents should be impressed with the fact that irregularity of attendance is a wrong to the child, a wrong to the other pupils, who are hindered in their work, and a wrong to the state, which is furnishing the opportunity for education and which has a right to expect the best results.

(a) *Cheating.* — Not enough attention is paid to the great school evil of dishonesty. I have known it to be winked at by the teacher in order that her class might make a better showing with the school authorities. I once took charge of a school in New York State that was under the control of the Board of Regents. It is well known that their regulations regarding examinations are very explicit. And yet the violation of those rules was most common. There had grown up one code of morals for the school and another for life. I heard some of my pupils testify in prayer-meeting and saw them cheat the next day in their school work. And yet I never held those young people accountable for their dishonesty, for their teachers had violated the express rules of the Regents in order to make a good showing and the pupils knew it. I say that I did not hold them accountable, for when the enormity of the evil was

pointed out to them they were appalled and generally ceased from its further practice.

Children should be taught that cheating is pure deception, is lying, is stealing, and that in the final analysis they are wronging themselves. If the teacher herself shows her honesty and integrity, and trusts her pupils to do right, most of them will respond. A distinction should be clearly made between cheating, lying, and stealing, which are sins against God's law, and whispering, tattling, and irregularity, which are violations of the teacher's restrictions.

(b) *The discipline.* — Discipline should be not a temporary makeshift, but a steady, persistent, conscientious effort to correct faults and establish good habits in the children. The moral aim should be the basis of all school work whether it be in the class exercises, the recreations, or the discipline. Obedience to the laws of the home, of the school, of the state, of nature, and of God should be thoroughly inculcated, so that the child does right from an inner impulse, until later he is able to govern himself. When this attitude has been reached, pupil government will be possible, and will be a healthful means of stimulating and fixing moral life.

What to Teach. — It is impossible within the limits of this work to answer this question in detail. For such detailed discussion the reader must turn to works on this subject. Every teacher should possess a handbook on moral instruction as a guide in this important work.[1] I may suggest, however, at least

[1] I recommend the following among the many works in this subject: Clark — "Systematic Moral Instruction," A. S. Barnes Co., New York,

the following topics which should be presented to the pupils from time to time, with plenty of suitable illustration. Much of the material for illustration will be gathered by the teacher from her own daily experiences, and from books, as has already been shown. Clark discusses many topics, giving maxims, proverbs, texts, and quotations bearing upon each, which are to be memorized. For example,

On *Obedience:*

"True obedience neither procrastinates nor questions.

On *Kindness:*

"Kind words can never die,
Cherished and blest,
God knows how deep they lie,
Stored in the breast."

On *Courtesy:*

"Courtesy is to do and say,
The kindest things in the kindest way."

On *Friendship:*

"When you find one good and true,
Change not the old friend for the new."

At least these topics should be treated: cheerfulness, cleanliness, friendship, fair play, helpfulness, gratitude, charity, honesty, thrift, courage, honor, truthfulness, temperance, good habits, duty, obedience, self-control, service. These and many others should be adapted to the child's actual experience and he should be given practice in each.

offers an excellent arrangement of topics for each grade. Shearer — "Morals and Manners," Macmillan Co., New York. Adler — "Moral Instruction of Children," Appleton, New York. "Ethics of Success," — Readers I, II, III, Silver, Burdett & Co., New York.

Such instruction is surely needed in the American public schools, and if pursued with intelligence, in a proper spirit on the part of the teacher, with an understanding of its great need, it is likely to receive the coöperation of parents and thus be of inestimable value in shaping the lives of our future citizens. A republic cannot long continue whose citizenship is wanting in either intelligence or moral rectitude.

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